SERVICE MANUAL

# FISHER

# CR-120

## Stereo Cassette Tape Deck with Dolby Noise Reduction system, Metal Tape Capability and Auto Search Function

THE FIRST NAME IN HIGH FIDELITY

# SPECIFICATIONS

| | |
|---|---|
| Power Source | AC 120/220V (50/60Hz) |
| Power Consumption | 14W |
| Recording System | AC Bias |
| Erasing System | AC Erasing |
| Tape Speed | 1-7/8 ips. ±2% |
| Wow & Flutter | 0.08% WRMS |
| Torque | |
| Playback | 35 - 45g-cm |
| Fast Forward | 60 - 90g-cm |
| Rewind | 60 - 90g-cm |
| Fast Forward Time | 100sec. (with C-60 cassette tape) |
| Rewind Time | 100sec. (with C-60 cassette tape) |
| Frequency Response (Overall, DOLBY : OFF) | |
| $Fe_2O_3$ (7dB band) | 40 - 12.5kHz |
| $CrO_2$ (7dB band) | 40 - 14kHz |
| Metal (7dB band) | 40 - 16kHz |
| Signal to Noise Ratio (According to CCIR method: Weighted, DOLBY : ON) | |
| $Fe_2O_3$ | 58dB |
| $CrO_2$ | 60dB |
| Metal | 60dB |
| Signal to Noise Ratio (According to CCIR method: Weighted, DOLBY : OFF) | |
| $Fe_2O_3$ | 50dB |
| $CrO_2$ | 52dB |
| Metal | 52dB |
| Erase Ratio (Overall) | |
| $Fe_2O_3$ | 60dB |
| $CrO_2$ | 60dB |
| Metal | 60dB |
| Crosstalk (with $Fe_2O_3$) | |
| Track to Track | 60dB |
| Channel Separation (with $Fe_2O_3$) | 35dB |
| Harmonic Distortion (K3) | |
| $Fe_2O_3$ | 1.8% |
| $CrO_2$ | 1.5% |
| Metal | 1.5% |
| Input Sensitivity and Impedance | |
| Microphone | 1mV/15k-ohm |
| LINE IN | 100mV/50k-ohm |
| DIN INPUT | 1mV/10k-ohm |
| Output Level and Impedance | |
| LINE OUT | 500mV/2k-ohm (47k-ohm load) |
| DIN OUTPUT | 520mV/22k-ohm (470k-ohm load) |
| Headphone | 30mV/500-ohm (8-ohm load) |
| Oscillation Frequency | 85kHz |
| Dimensions (W x H x D) | 400 x 120 x 205mm |
| Weight | 4.5kg |

**–Specifications subject to change without notice.–**

# MECHANICAL ADJUSTMENTS

## EQUIPMENTS REQUIRED

- Cassette-type Torque Meter (100g maximum)
- Thickness Gauge
- Cassette Tape (C-120)
- Silicone Grease (Example: SHIN-ETSU SILICONE KS-64)
- Paint or Glue

## GENERAL REMARKS

- Before adjusting the mechanism of the unit, clean the tape contacting surfaces with a soft cloth soaked in alcohol. Trouble may occur because of oil and grease stains.

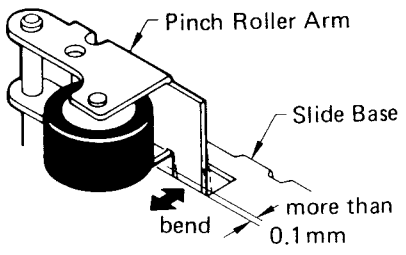
- The Belts must be kept clean while the adjustments are performed.
  * Silicone grease (Example: SHIN-ETSU SILICONE KS-64) is applied to the Drive Belt and the Take-up Belt to protect them from abrasion.
    If necessary, apply a proper amount of silicone grease (Example: SHIN-ETSU SILICONE KS-64) to each groove of the Flywheel and Friction assemblies.

    **NOTE:**
    Silicone grease is not applied to the Replacement Parts.

- **Never apply grease or oil to the ASO Belt. If applied, wipe it clean with benzine.**

## PINCH ROLLER ADJUSTMENT

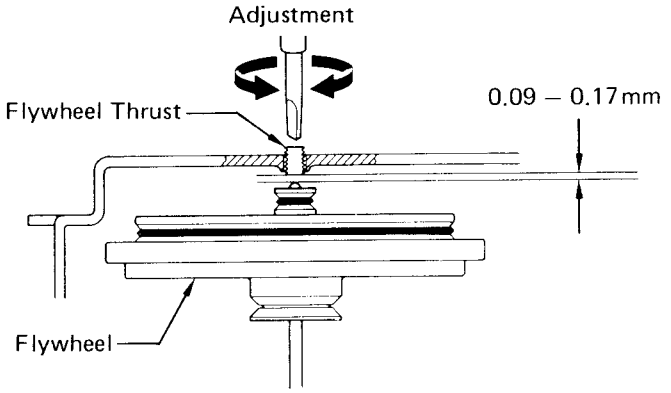
1. Set the unit in the playback mode and check to see that the clearance between the Pinch Roller Arm and the Slide Base is more than 0.1mm, and that the Take-up Reel Gear rotates before the Pinch Roller starts rotating as the PLAY button is gradually pressed.




2. If necessary, adjust the clearance by carefully bending the Pinch Roller Arm as illustrated.
   Do not excessively bend it.

## FLYWHEEL THRUST ADJUSTMENT

Check to see that the clearance between the Flywheel Thrust and Flywheel is 0.09 – 0.17mm with the chassis upside down as illustrated. If necessary, adjust the clearance by the following procedure.




1. While moving the Capstan up and down, slowly turn the Flywheel Thrust clockwise to obtain the clearance of "0" between the Thrust and the Flywheel.

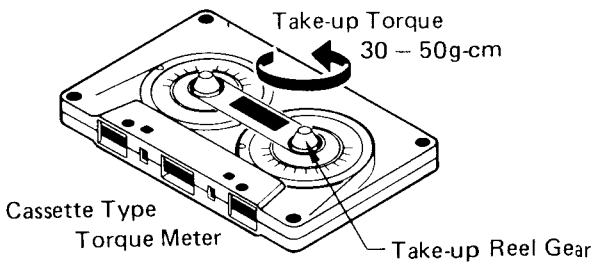
   **NOTE:**
   Do not turn the Flywheel Thrust forcibly.

2. Turn the Thrust counter-clockwise by 45° – 90° from the position.

3. After the adjustment, secure the Flywheel Thrust with paint or glue.

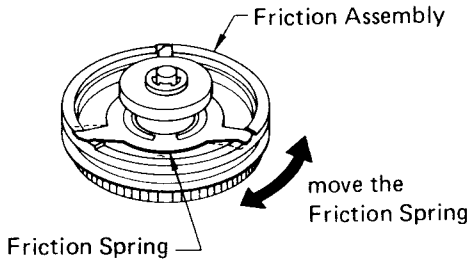
## TAKE-UP TORQUE ADJUSTMENT

1. Insert the cassette-type torque meter into the unit and measure the torque of the Take-up Reel Gear with the unit in the playback mode. It should be 30 – 50g-cm.



# MECHANICAL ADJUSTMENTS (Continued)

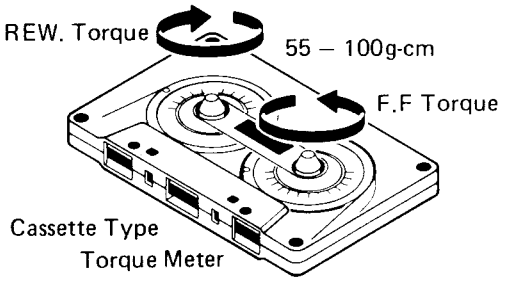
2. If necessary, adjust the torque by moving the Friction Spring of the Friction Assembly as illustrated.




**NOTE:**
If the Take-up Reel Gear and the Take-up Gear run idle and produce an abnormal sound, adjust the take-up torque as low as possible.

## FAST FORWARD & REWIND TORQUE

1. The fast forward and rewind torque value measured by cassette-type torque meter should be 55 – 100g-cm.



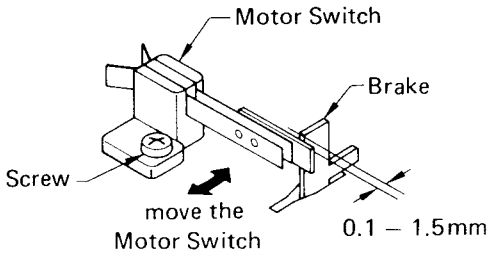

**NOTE:**
Read the torque values on the torque meter just before the unit automatically shuts off.

2. If the torque value is more than 100g-cm, apply a proper amount of silicone grease (Example: SHIN-ETSU SILICONE KS-64) to the groove of the Friction Assembly. Then, make the Motor rotate and apply the silicone grease to the Take-up Belt.

3. If the torque value is less than 55g-cm, replace the Take-up Belt with a new one.

## MOTOR SWITCH ADJUSTMENT

1. Set the unit in the Stop mode and check to see that the clearance between the Motor Switch and the Brake is 0.1 – 1.5mm as illustrated, and that the Motor Switch is turned on by pressing one of the Select Buttons (PLAY, FF, or REW).

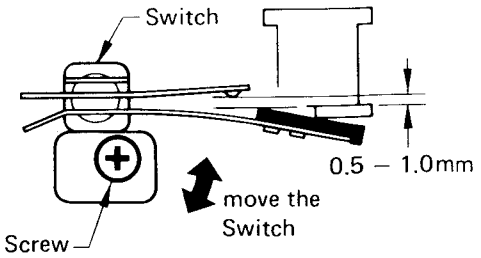



2. If necessary, loosen the screw fastening the Motor Switch and shift the Switch to the specified position.

3. After the adjustment, tighten the screw and secure it with paint or glue.

## MUTING SWITCH ADJUSTMENT

1. This Switch is normally closed. Check to see that the clearance between the both contacts of the switch is 0.5 – 1.0mm with the PLAY button down as illustrated.




2. If necessary, loosen the screw fastening the Switch and move the Switch to the specified position.

3. After the adjustment, tighten the screw and secure it with paint or glue.

# MECHANICAL ADJUSTMENTS (Continued)

## ASF (AUTO SEARCH FUNCTION) ADJUSTMENTS

The Automatic Search Function (ASF) can locate the selected section of music quality and start playing back automatically. This is done by detecting the silent space (unrecorded portion of more than 4 seconds) on the tape between each selection of recorded music.
This system may not work correctly in the following cases;

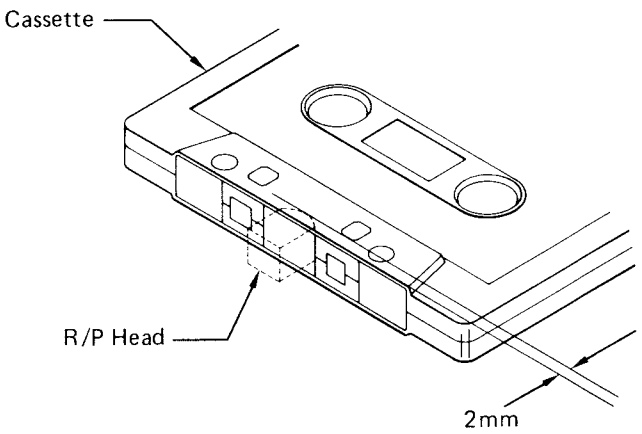
- The silent space (unrecorded portion) does not last long enough (shorter than four seconds).
- Recorded sound is interrupted for more than four seconds as in speech tape.
- A tape is recorded with a very low level.
- A tape is recorded with noise on silent space.
- When the unit is used on a TV set, this system may be affected by the electric wave.

**Perform the following adjustments if necessary.**

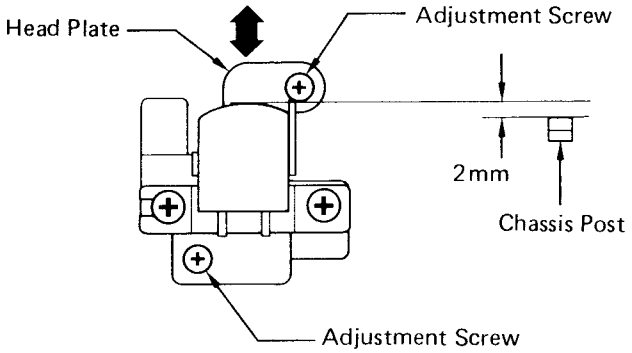
## R/P HEAD POSITION ADJUSTMENT

After the R/P Head has been removed or replaced, adjust the head position by following the procedures.

**NOTE:**
A cassette with the specified post-head distance marked on it as shown can be used as a facilitating gauge for the Head position adjustment. (Do not use a worn cassette.)

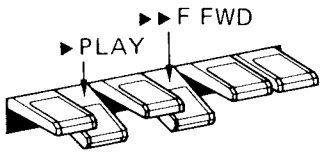



1. Check each head position with the unit in the both Cue and Review modes as follows:
   * Loosen the two screws fastening the Head Plate and set the unit in the Cue mode.
   * Adjust the Head position by moving the Head Plate until the distance between the Chassis Posts and the Head becomes 2mm as illustrated. Then, tighten the fastening screws.

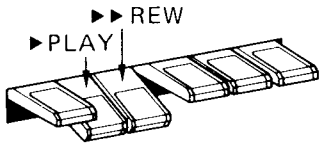



2. Check the head position with the unit in the Review mode.
   * If the distance between the Chassis Posts and the Head exeeds 2mm, loosen the fastening screws and adjust the distance to 2mm by moving the Head Plate. Then, tighten the fastening screws.

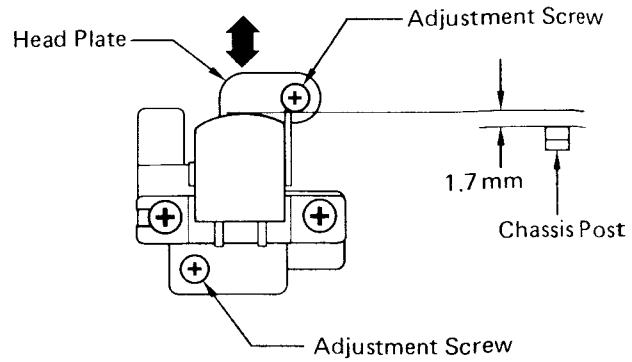
**NOTE:**
* To place the unit in the Cue mode, simultaneously press the PLAY and F.FWD buttons.




* To place the unit in the Review mode, simultaneously press the PLAY and REW buttons.




3. Check to see that the distance between the Chassis Posts and the Head is more than 1.7mm when the F.FWD and REW buttons are fully pressed with the unit in each mode of the Cue and the Review as illustrated.

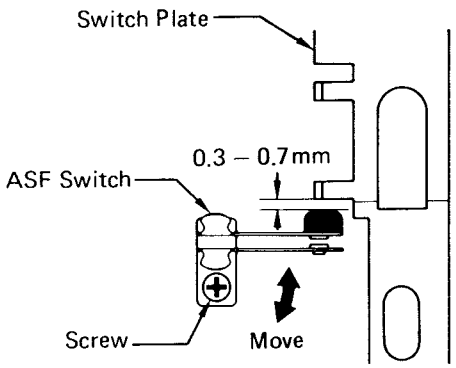



4. After the adjustment, secure the fastening screws with paint or glue.

# MECHANICAL ADJUSTMENTS (Continued)

### ASF SWITCH ADJUSTMENT

1. Check to see that the clearance between the ASF Switch Contact and the Switch Plate is 0.3 – 0.7mm with the unit in the stop mode as illustrated.



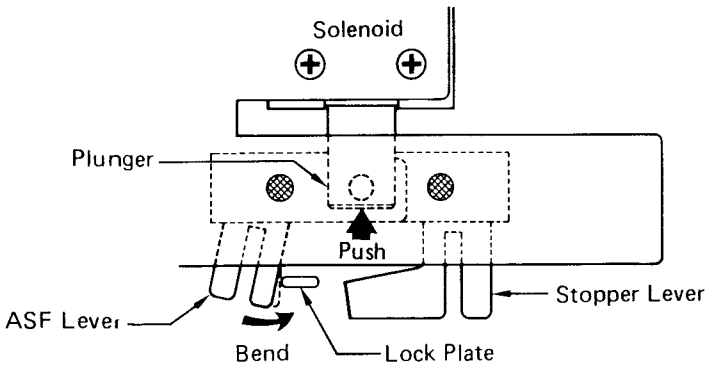

2. If not, loosen the screw fastening the Switch and move the Switch to the specified position.

3. After the adjustment, tighten the fastening screw and secure it with paint or glue.

### PLUNGER STROKE ADJUSTMENT

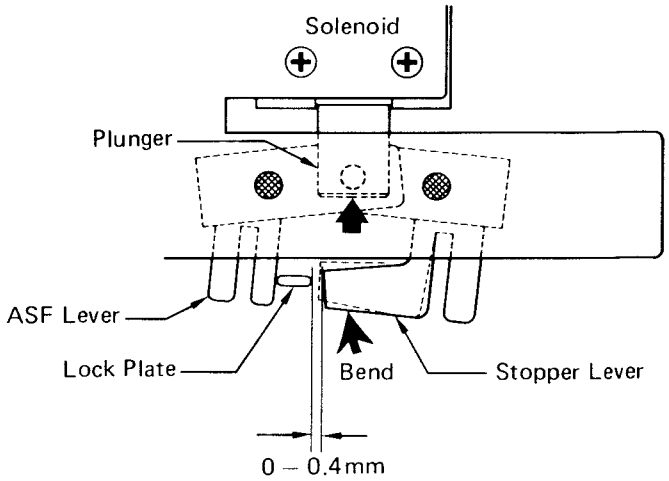
1. Set the unit in the fast forward mode and check to see that the F.FWD button is released by slowly pushing the Plunger of the Solenoid in the direction of the arrow.
   Then, make the above check in the rewind mode with the same procedure as the fast forward mode.

   * If not, adjust the ASF Lever by bending it as illustrated, so that the F.FWD and REW buttons are released by pushing the Plunger in both modes of the fast forward and the rewind.



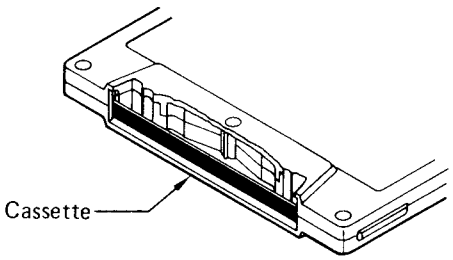

2. Place the unit in the stop mode and check to see that the clearance between the Lock Plate and the Stopper Lever is 0 – 0.4mm when the Plunger of the Solenoid is fully pushed in the direction of the arrow.

   * If not, adjust the clearance by bending the Stopper Lever as illustrated.




### TAPE RUNNING CONDITION ADJUSTMENT

1. Prepare the cassette tape (C-120) as the test tape for this adjustment.




2. Insert the test tape into the cassette compartment and play it back. Then, check to see that the tape is not curling along the Tape Guide of the Erase Head while the test tape is being played back.

3. If necessary, tighten the adjusting screw and slowly loosen the adjusting screw until the tape is exactly centered in the Tape Guide of the Erase Head.

4. After the adjustment, secure the adjusting screw with paint or glue.

# MECHANICAL ADJUSTMENTS (Continued)

## AUTO SHUT-OFF MECHANISM

### FUNCTION

1. Silicone grease (Example: SHIN-ETSU SILICONE KS-64) is applied to the contacting surfaces of the Bushing and the ASO Lever, and the teeth of the ASO Lever to make the Auto Shut-off mechanism function smoothly.
   If necessary, apply a proper amount of silicone grease to them.

2. The ASO Lever is ordinarily pressed to the Bushing of the Friction Assembly by the spring and moves in the direction of arrow A in accordance with the bushing rotation.

3. The shaft of the ASO Pulley is elliptical in shape like a cam as illustrated and moves the ASO Lever in the direction of arrow B according to the rotation of the ASO Pulley.

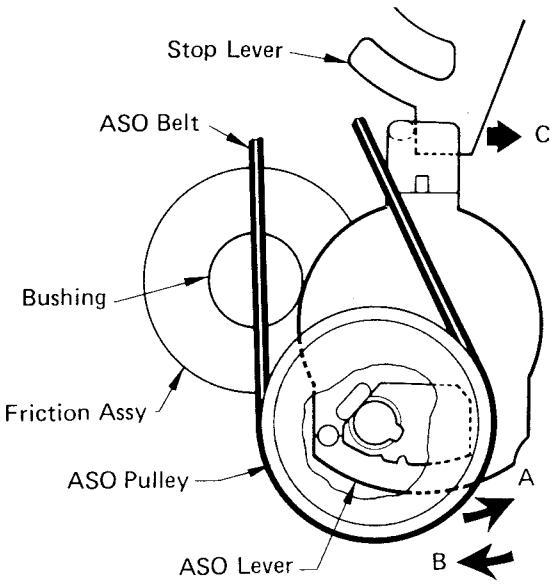
4. The teeth of the ASO Pulley and ASO Lever do not mesh and the shaft moves the ASO Lever back and forth by the above described movements (A and B).

5. When the tape is completely wound to the end, the bushing rotation stops, so that the ASO Lever is moved in the direction of arrow B by the ASO Pulley and it stops moving.

6. While the ASO Pulley is rotating, its tooth is engaged with the first tooth of the ASO Lever and it moves the ASO Lever in the direction of arrow C. Then, the tooth of the ASO Pulley is disengaged from the tooth of the ASO Lever.

7. The ASO Pulley continues rotating, so that its tooth meshes with the second tooth of the ASO Lever and it moves the ASO Lever in the direction of arrow C again.

8. Then, the ASO Lever pushes the Stop Lever in the direction of arrow C, so that the unit is set in the stop mode.




**If there is a problem with the the Auto Shut-off mechanism, repair it referring to the following troubleshooting.**

| SYMPTOM | POSSIBLE CAUSE | | REMEDY |
|---|---|---|---|
| ASO mechanism does not work properly. | ASO Spring is unhooked | | Repair. |
| | Grease is not applied suficiently to the circumference of the Bushing or is not applied at all. | | Apply grease. |
| | ASO Lever does not move properly. | Shaft of ASO Lever is clogged by grease or dust. | Remove grease or dust by wiping Shaft of ASO Lever with alcohol. |
| ASO mechanism does not work at all. | ASO Lever is in contact with Take-up Pulley of Friction Assembly. | | Insert the washer below the E ring of the Bushing and keep the clearance between the E ring and the Bushing less than 0.5mm. |
| | ASO Belt is worn out. | | Replace ASO Belt. |
| | ASO Belt is stained. | | Wipe ASO Belt with benzine. |

**NOTE:**
Although there is a case that the button is not locked by pressing one of the Select Buttons (PLAY, FF, or REW) without Power supplied to the unit after the unit has automatically shut off, this symptom is not a mulfunction.

# ELECTRICAL ADJUSTMENTS

## REQUIRED EQUIPMENT

- VTVM (2 sets)
- Frequency Counter
- Audio Signal Generator
- Dummy Load (47k-ohm)
- Dualtrace Synchroscope
- Test Tapes
  - * 3kHz test tape (Example: TEAC MTT-111) for Tape Speed Adjustment
  - * 10kHz test tape (Example: TEAC MTT-316) for Head Azimuth Adjustment
  - * Test Tape for DOLBY Level Calibration (Example: TEAC MTT-150) in Playback Gain Adjustment
- Test Tape for recording and playback operations
  - * Metal Tape (Example: TDK AC-701)
- Alignment Tool

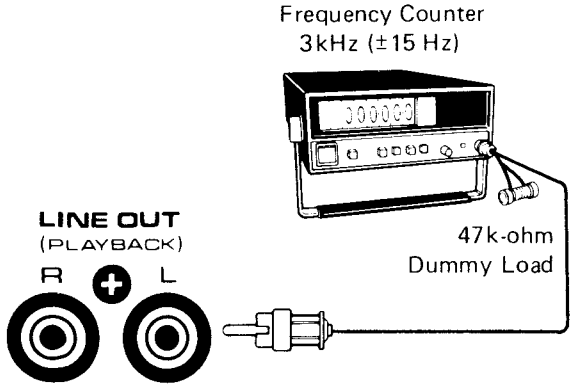
**Prior to the Electrical Adjustments, set the unit and the measuring instruments as follows:**

- DOLBY NR Switch ..... OFF
- Tape Select Switches ..... NORMAL
- Input Select Switch ..... LINE
- Input Level Adjusting Volume ..... Maximum
- Audio Signal Generator Output ..... 1kHz 0dB (1V)

**NOTE:**
The Electrical Adjustments should be performed in the order as described below.

## TAPE SPEED ADJUSTMENT

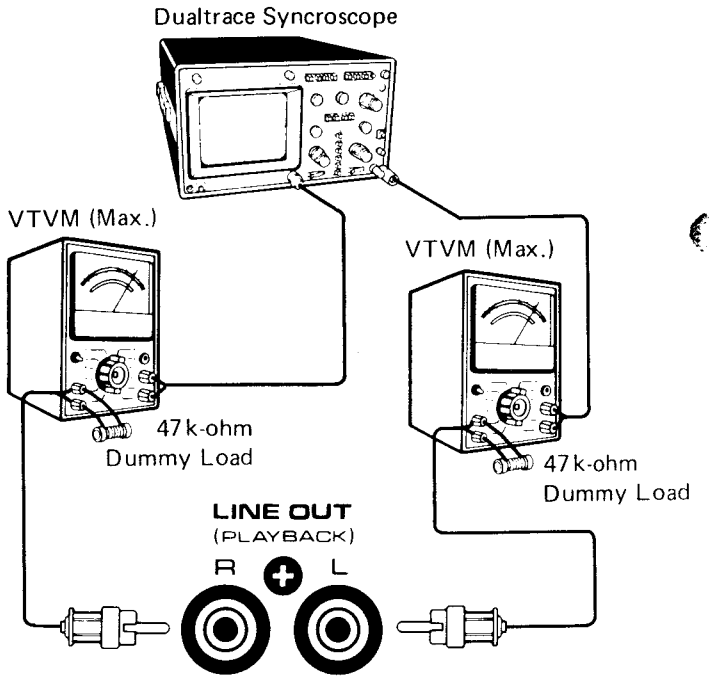
1. Connect the frequency counter to the left or right channel LINE OUT as illustrated. Then, insert a 3kHz test tape (Example: TEAC MTT-111) into the cassette compartment.




2. While playing back the test tape, adjust the potentiometer inside the Motor by turning it until the frequency counter reads 3kHz (±15Hz).

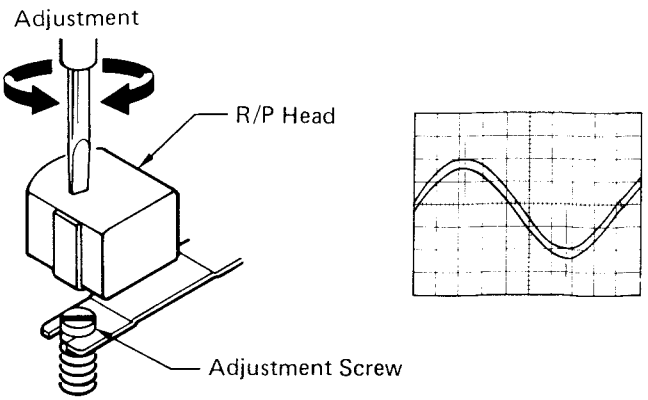
## HEAD AZIMUTH ADJUSTMENT

1. Remove the cassette compartment lid from the unit and connect the dualtrace synchroscope and the VTVM to both channel LINE OUT as illustrated. Then, set the dualtrace synchroscope as follows:
   - * MODE ..... CHOP (chopped)
   - * SOURCE ..... INT (internal), CH1 or CH2
   - * SWEEP MODE ..... AUTO (automatic)




**NOTE:**
Adjust the field on the synchroscope with the VOL. ADJ. and TIME ADJ.

2. Insert a 10kHz test tape (Example: TEAC MTT-114) into the cassette compartment. While playing back the test tape, turn the azimuth adjusting screw until the wave forms of the right and left channels are superimposed and set to optimum at maximum reading of the VTVM.



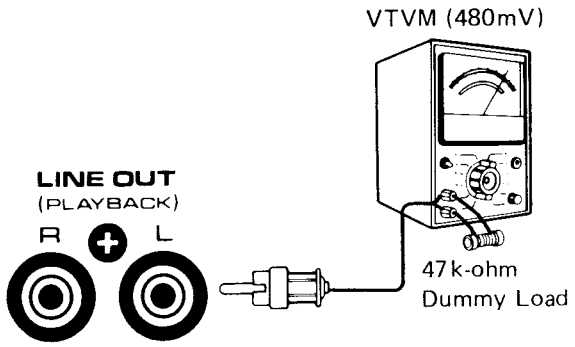

3. After the adjustment, secure the adjusting screw with paint or glue.

# ELECTRICAL ADJUSTMENTS (Continued)

## PLAYBACK GAIN ADJUSTMENT

### LEFT CHANNEL

1. Connect the VTVM to the left channel LINE OUT as illustrated. Then, insert the test tape for the DOLBY Level Calibration (Example: TEAC MTT-150) into the cassette compartment and set the unit in the playback mode.




2. While playing back the test tape, adjust the potentiometer (P101) until the output level becomes 480mV on the VTVM.

### RIGHT CHANNEL

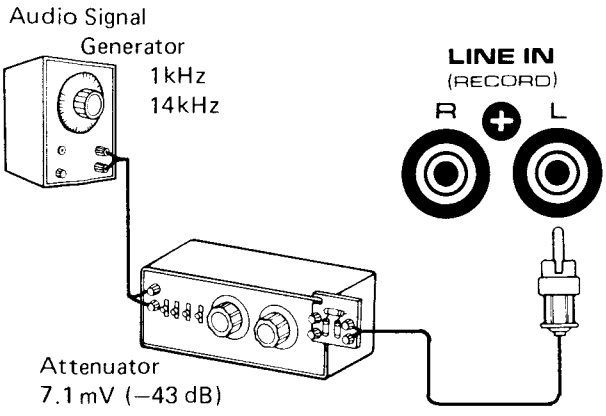
Connect the VTVM to the right channel LINE OUT. Then, adjust the potentiometer (P201) for the right channel by following the same procedure as LEFT CHANNEL.

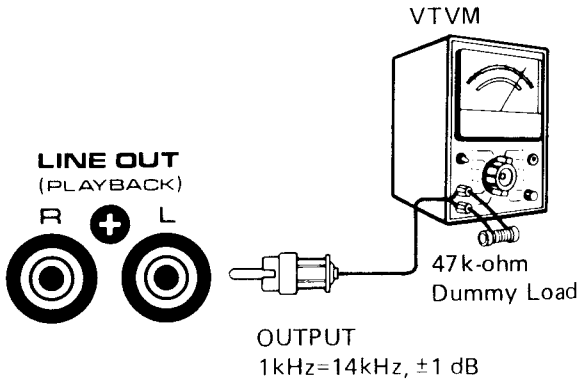
## RECORDING BIAS ADJUSTMENT

- **For Metal Tape**

### LEFT CHANNEL

1. Connect the audio signal generator and the attenuator to the left channel LINE IN, and the VTVM to the left channel LINE OUT as illustrated. Then, insert a metal tape (Example: TDK AC-701) into the cassette compartment.




2. Set the Tape Select Switches to METAL.

3. With the INPUT Level Control set to the maximum, alternately record the 1kHz signal and 14kHz signal from the audio signal generator at 7.1mV (–43dB) on the tape several times.

4. While playing back the recorded signals, check that the 14kHz signal output is identical to 1kHz signal output or the deviation is ±1dB on the VTVM.

5. If not, adjust the potentiometer (P103) and re-check the output of each signal by playing back the signals after the recording operation for the signals.

6. Repeat the above adjustment until the specified output is obtained.

### RIGHT CHANNEL

Connect the audio signal generator and the attenuator to the right channel LINE IN, and the VTVM to the right channel LINE OUT. Then, adjust the potentiometer (P203) for the right channel by following the same procedure as LEFT CHANNEL.

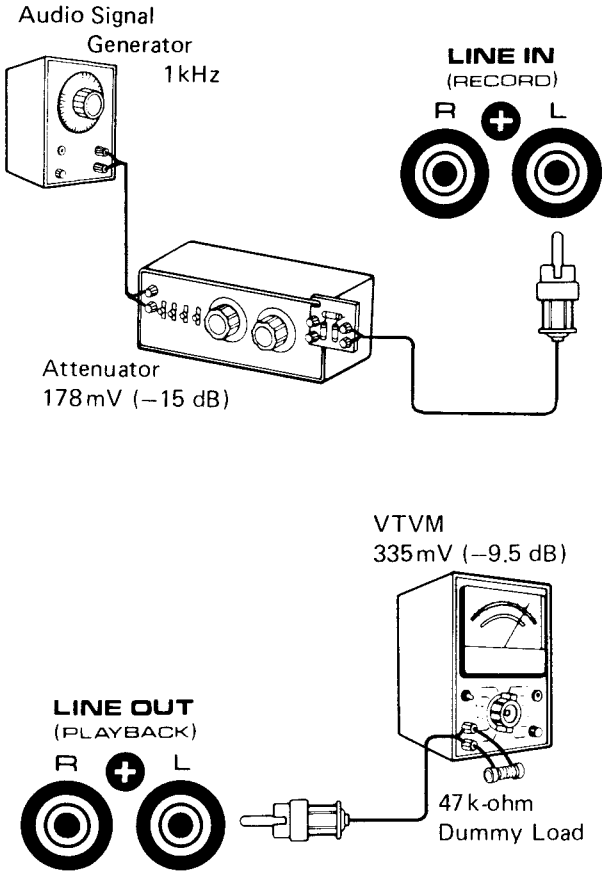
# ELECTRICAL ADJUSTMENTS (Continued)

## RECORDING GAIN ADJUSTMENT

- **For Metal Tape**

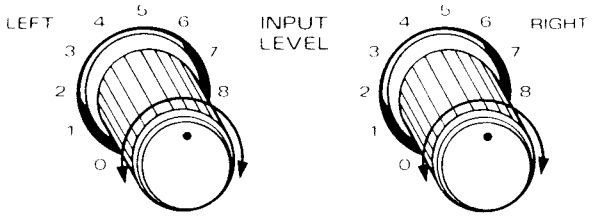
**LEFT CHANNEL**

1. Connect the audio signal generator and the attenuator to the left channel LINE IN, and the VTVM to the left channel LINE OUT as illustrated. Then, insert a metal tape (Example: TDK AC-701) into the cassette compartment.




2. Set the Tape Select Switches to METAL.

3. Place the unit in the recording mode with the PAUSE button down. Feed 1kHz signal from the audio signal generator at 178mV (–15dB) to the unit and adjust the left channel INPUT Level Control until the VTVM reads 335mV (–9.5dB). Then, record the signal on the tape by repressing the PAUSE button.




4. While playing back the recorded signal, check that the VTVM reads 335mV (–9.5dB).

5. If not, adjust the potentiometer (P102) and re-check the output by playing back the signal after the recording operation for the signal.

6. Repeat the above adjustment until the specified output is obtained.

**RIGHT CHANNEL**

Connect the audio signal generator and the attenuator to the right channel LINE IN, and the VTVM to the right channel LINE OUT. Then, adjust the right channel INPUT Level Control and the potentiometer (P202) for the right channel by following the same procedure as LEFT CHANNEL.

# PARTS LIST

**PRODUCT SAFETY NOTICE**

PRODUCT SAFETY SHOULD BE CONSIDERED WHEN A COMPONENT REPLACEMENT IS MADE IN ANY AREA OF AN UNIT. COMPONENTS INDICATED BY A MARK ⚠ IN THIS PARTS LIST AND THE SCHEMATIC DIAGRAM SHOW COMPONENTS WHOSE VALUE HAS SPECIAL SIGNIFICANCE TO PRODUCT SAFETY. IT IS PARTICULARLY RECOMMENDED THAT ONLY PARTS SPECIFIED ON THE FOLLOWING PARTS LIST BE USED FOR COMPONENT REPLACEMENT POINTED OUT BY THE MARK.

| Ref. No. | Part No. | Description | Q'ty |
|---|---|---|---|
| | **PACKAGE** | | |
| | 141 6 1419 47207 | Individual Carton | 1 |
| | 141 6 1449 62500 | Styrofoam Case | 1 |
| | 141 6 1449 62600 | Styrofoam Case | 1 |
| | 141 6 2519 09290 | Poly Cover | 1 |
| | 141 6 2519 24033 | Poly Cover | 1 |
| | 141 6 4559 03200 | Serial No. Sheet | 3 |
| | **ACCESSORIES** | | |
| | 4 2369 70571 | Patch Cord | 2 |
| | 141 6 4519 19400 | Warranty Card | 1 |
| | 141 6 4729 07400 | Caution Label | 1 |
| | 141 6 4729 07700 | Caution Label | 1 |
| | 142 6 4119 03800 | Instruction Manual | 1 |
| | **CABINET** | | |
| | 141 0 1119 72300 | Front Cabinet Assy | 1 |
| | 141 2 1119 60500 | Cover | 1 |
| | 141 2 1249 22600 | Cassette Lid | 1 |
| | 141 2 1319 17501 | Cassette Lid Clear | 1 |
| | 141 2 1419 09276 | Rating Plate | 1 |
| | 141 2 2449 32000 | Sheet | 1 |
| | 102 3 1703 01218 | Screw, Bind Hd. Tapping-1 +M3.0x12 | 2 |
| | 103 3 1703 00811 | Screw, Bind Hd. Tapping-2 +M3.0x8 | 4 |
| | 103 3 1703 01211 | Screw, Bind Hd. Tapping-2 +M3.0x12 | 1 |
| | 103 3 1703 01411 | Screw, Bind Hd. Tapping-2 +M3.0x14 | 2 |
| | 141 2 1619 68800 | Knob | 1 |
| | 141 2 1619 68900 | Knob | 1 |
| | 141 2 1619 69000 | Switch Knob | 4 |
| | 141 2 1639 36600 | Knob | 2 |
| | **CONTROL CIRCUIT P.C.B. ASSY** | | |
| | 4 1329 75880 | Control Circuit P.C.B. Assy | 1 |
| F1 | ⚠ 4 2349 70040 | Fuse | 1 |
| F2 | ⚠ 4 2349 70040 | Fuse | 1 |
| | 4 2359 70910 | Fuse Holder | 4 |
| C314 | CC1 0 3500 KE00C | Ceramic 0.01 μF 50V ±10% | 1 |
| C315 | CD4 7 7250 0001V | Electrolytic 470 μF 25V | 1 |
| C316 | CD1 0 8350 0001V | Electrolytic 1000 μF 35V | 1 |
| C317 | CD1 0 8160 0001V | Electrolytic 1000 μF 16V | 1 |
| C319 | CT2 2 6100 M00DV | Tantalum 22 μF 10V ±20% | 1 |
| C320 | CD3 3 5250 0000V | Electrolytic 3.3 μF 25V | 1 |
| C321 | CD1 0 5160 0000V | Electrolytic 1 μF 16V | 1 |
| C322 | CD1 0 8160 0001V | Electrolytic 1000 μF 16V | 1 |
| C325 | CD4 7 5100 0000V | Electrolytic 4.7 μF 10V | 1 |
| C330 | CC2 2 3500 KE00C | Ceramic 0.022 μF 50V ±10% | 1 |
| C331 | CC2 2 3500 KE00C | Ceramic 0.022 μF 50V ±10% | 1 |
| D306 | 4 2029 70620 | Bridge Diode | 1 |
| D307 | 202 5 2450 13520 | Diode, DS135 | 1 |
| D308 | 4 2029 71190 | Diode, 05Z20 | 1 |
| D315 | 202 5 3210 05120 | Diode, GZA5.1U | 1 |
| D316 | 202 5 9530 44810 | Diode, DS448 | 1 |
| D317 | 202 5 9530 44810 | Diode, DS448 | 1 |
| D318 | 202 5 9530 44810 | Didde, DS448 | 1 |
| D319 | 202 5 9600 44610 | Diode, DS446 | 1 |
| D320 | 202 5 9530 44810 | Diode, DS448 | 1 |
| Q308 | 203 5 5100 53650 | Transistor, 2SC536 | 1 |
| Q309 | 203 5 5100 53650 | Transistor, 2SC536 | 1 |
| Q310 | 203 5 4570 73460 | Transistor, 2SD734 | 1 |
| Q313 | 203 5 5100 53650 | Transistor, 2SC536 | 1 |

| Ref. No. | Part No. | Description | Q'ty |
|---|---|---|---|
| | **CONTROL CIRCUIT P.C.B. ASSY** | | |
| R311 | RD3 3 A251 JS000 | Carbon 3.3 ohm 1/4W ±5% | 1 |
| R312 | RD3 3 1251 JS000 | Carbon 330 ohm 1/4W ±5% | 1 |
| R313 | RD5 6 A251 JS000 | Carbon 5.6 ohm 1/4W ±5% | 1 |
| R318 | RD3 3 1251 JS000 | Carbon 330 ohm 1/4W ±5% | 1 |
| R319 | RD4 7 1251 JS000 | Carbon 470 ohm 1/4W ±5% | 1 |
| R332 | RD1 0 1251 JS000 | Carbon 100 ohm 1/4W ±5% | 1 |
| R334 | RD5 6 1251 JS000 | Carbon 560 ohm 1/4W ±5% | 1 |
| R335 | RD5 6 2251 JS000 | Carbon 5.6 k ohm 1/4W ±5% | 1 |
| R336 | RD1 0 3251 JS000 | Carbon 10 k ohm 1/4W ±5% | 1 |
| R337 | RD1 0 1251 JS000 | Carbon 100 ohm 1/4W ±5% | 1 |
| R338 | RD1 0 0251 JS000 | Carbon 10 ohm 1/4W ±5% | 1 |
| R339 | RD1 0 2251 JS000 | Carbon 1 k ohm 1/4W ±5% | 1 |
| R340 | RD1 5 3251 JS000 | Carbon 15 k ohm 1/4W ±5% | 1 |
| R341 | RD2 2 3251 JS000 | Carbon 22 k ohm 1/4W ±5% | 1 |
| R342 | RD3 3 3251 JS000 | Carbon 33 k ohm 1/4W ±5% | 1 |
| R343 | RD3 3 2251 JS000 | Carbon 3.3 k ohm 1/4W ±5% | 1 |
| R344 | RD1 5 4251 JS000 | Carbon 150 k ohm 1/4W ±5% | 1 |
| | **AMPLIFIER P.C.B. ASSY** | | |
| | 4 1329 75963 | Amplifier P.C.B. Assy | 1 |
| | 4 2359 70740 | Connector | 6 |
| J4 | 4 2359 73601 | Jack 2P (Line In) | 1 |
| J5 | 4 2359 73601 | Jack 2P (Line Out) | 1 |
| J6 | 4 2359 71552 | DIN Socket (Record/Play) | 1 |
| | 141 2 4729 04700 | Staple 10 | 3 |
| CN1 | 4 2369 71450 | Connector 6P | 1 |
| CN2 | 4 2369 71480 | Connector 3P | 1 |
| C101 | CC2 7 1500 KE00C | Ceramic 270 pF 50V ±10% | 1 |
| C102 | CC4 7 1500 KE00C | Ceramic 470 pF 50V ±10% | 1 |
| C103 | CD1 0 7100 0001V | Electrolytic 100 μF 10V | 1 |
| C104 | CD4 7 5100 0000V | Electrolytic 4.7 μF 10V | 1 |
| C105 | CD4 7 6100 0001V | Electrolytic 47 μF 10V | 1 |
| C106 | CD1 0 6100 0000V | Electrolytic 10 μF 10V | 1 |
| C107 | CC5 6 0500 KD00C | Ceramic 56 pF 50V ±10% | 1 |
| C108 | CM3 3 3500 K00SV | Mylar 0.033 μF 50V ±10% | 1 |
| C109 | CM1 5 3500 K00SV | Mylar 0.015 μF 50V ±10% | 1 |
| C110 | CD2 2 7160 0001V | Electrolytic 220 μF 16V | 1 |
| C111 | CD1 0 7160 0001V | Electrolytic 100 μF 16V | 1 |
| C112 | CD1 0 5100 0000V | Electrolytic 1 μF 10V | 1 |
| C113 | CC1 0 1500 KE00C | Ceramic 100 pF 50V ±10% | 1 |
| C114 | CA3 3 4100 K000V | Aluminum 0.33 μF 10V ±10% | 1 |
| C115 | CA1 0 4100 K000V | Aluminum 0.1 μF 10V ±10% | 1 |
| C116 | CD1 0 6100 0000V | Electrolytic 10 μF 10V | 1 |
| C117 | CM1 2 3500 K00SV | Mylar 0.012 μF 50V ±10% | 1 |
| C118 | CM4 7 3500 K00SV | Mylar 0.047 μF 50V ±10% | 1 |
| C119 | CD1 0 6100 0000V | Electrolytic 10 μF 10V | 1 |
| C120 | CM4 7 2500 K00SV | Mylar 0.0047 μF 50V ±10% | 1 |
| C121 | CM5 6 2500 K00SV | Mylar 0.0056 μF 50V ±10% | 1 |
| C122 | CM2 7 3500 K00SV | Mylar 0.027 μF 50V ±10% | 1 |
| C123 | CM1 2 2500 K00SV | Mylar 0.0012 μF 50V ±10% | 1 |
| C124 | CD1 0 6100 0000V | Electrolytic 10 μF 10V | 1 |
| C125 | CD1 0 6100 0000V | Electrolytic 10 μF 10V | 1 |
| C126 | CD1 0 6100 0000V | Electrolytic 10 μF 10V | 1 |
| C127 | CD4 7 4160 0000V | Electrolytic 0.47 μF 16V | 1 |
| C128 | CD4 7 6100 0001V | Electrolytic 47 μF 10V | 1 |
| C129 | CD1 0 6100 0000V | Electrolytic 10 μF 10V | 1 |
| C130 | CA2 2 4100 K000V | Aluminum 0.22 μF 10V ±10% | 1 |
| C132 | CM2 7 2500 K00SV | Mylar 0.0027 μF 50V ±10% | 1 |
| C133 | CC1 0 1500 KE00C | Ceramic 100 pF 50V ±10% | 1 |

# PARTS LIST (Continued)

| Ref. No. | Part No. | Description | Q'ty |
|---|---|---|---|
| | AMPLIFIER P.C.B. ASSY | | |
| C134 | CD4 7 4100 0000V | Electrolytic 0.47 μF 10V | 1 |
| C135 | CD4 7 4100 0000V | Electrolytic 0.47 μF 10V | 1 |
| C136 | CD1 0 6100 0000V | Electrolytic 10 μF 10V | 1 |
| C137 | CD1 0 6100 0000V | Electrolytic 10 μF 10V | 1 |
| C138 | CC2 2 1500 KE00C | Ceramic 220 pF 50V ±10% | 1 |
| C139 | CC2 2 2500 KE00C | Ceramic 0.0022 μF 50V ±10% | 1 |
| C140 | CD1 0 5100 0000V | Electrolytic 1 μF 10V | 1 |
| C141 | CD1 0 5100 0000V | Electrolytic 1 μF 10V | 1 |
| C180 | CC4 7 1500 KE00C | Ceramic 470 pF 50V ±10% | 1 |
| C201 | CC2 7 1500 KE00C | Ceramic 270 pF 50V ±10% | 1 |
| C202 | CC4 7 1500 KE00C | Ceramic 470 pF 50V ±10% | 1 |
| C203 | CD1 0 7100 0001V | Electrolytic 100 μF 10V | 1 |
| C204 | CD4 7 5100 0000V | Electrolytic 4.7 μF 10V | 1 |
| C205 | CD4 7 6100 0001V | Electrolytic 47 μF 10V | 1 |
| C206 | CD1 0 6100 0000V | Electrolytic 10 μF 10V | 1 |
| C207 | CC5 6 0500 KD00C | Ceramic 56 pF 50V ±10% | 1 |
| C208 | CM3 3 3500 K00SV | Mylar 0.033 μF 50V ±10% | 1 |
| C209 | CM1 5 3500 K00SV | Mylar 0.015 μF 50V ±10% | 1 |
| C210 | CD2 2 7160 0001V | Electrolytic 220 μF 16V | 1 |
| C211 | CD1 0 7160 0001V | Electrolytic 100 μF 16V | 1 |
| C212 | CD1 0 5100 0000V | Electrolytic 1 μF 10V | 1 |
| C213 | CC1 0 1500 KE00C | Ceramic 100 pF 50V ±10% | 1 |
| C214 | CA3 3 4100 K000V | Aluminum 0.33 μF 10V ±10% | 1 |
| C215 | CA1 0 4100 K000V | Aluminum 0.1 μF 10V ±10% | 1 |
| C216 | CD1 0 6100 0000V | Electrolytic 10 μF 10V | 1 |
| C217 | CM1 2 3500 K00SV | Mylar 0.012 μF 50V ±10% | 1 |
| C218 | CM4 7 3500 K00SV | Mylar 0.047 μF 50V ±10% | 1 |
| C219 | CD1 0 6100 0000V | Electrolytic 10 μF 10V | 1 |
| C220 | CM4 7 2500 K00SV | Mylar 0.0047 μF 50V ±10% | 1 |
| C221 | CM5 6 2500 K00SV | Mylar 0.0056 μF 50V ±10% | 1 |
| C222 | CM2 7 3500 K00SV | Mylar 0.027 μF 50V ±10% | 1 |
| C223 | CM1 2 2500 K00SV | Mylar 0.0012 μF 50V ±10% | 1 |
| C224 | CD1 0 6100 0000V | Electrolytic 10 μF 10V | 1 |
| C225 | CD1 0 6100 0000V | Electrolytic 10 μF 10V | 1 |
| C226 | CD1 0 6100 0000V | Electrolytic 10 μF 10V | 1 |
| C227 | CD4 7 4160 0000V | Electrolytic 0.47 μF 16V | 1 |
| C228 | CD4 7 6100 0001V | Electrolytic 47 μF 10V | 1 |
| C229 | CD1 0 6100 0000V | Electrolytic 10 μF 10V | 1 |
| C230 | CA2 2 4100 K000V | Aluminum 0.22 μF 10V ±10% | 1 |
| C232 | CM2 7 2500 K00SV | Mylar 0.0027 μF 50V ±10% | 1 |
| C233 | CC1 0 1500 KE00C | Ceramic 100 pF 50V ±10% | 1 |
| C234 | CD4 7 4100 0000V | Electrolytic 0.47 μF 10V | 1 |
| C235 | CD4 7 4100 0000V | Electrolytic 0.47 μF 10V | 1 |
| C236 | CD1 0 6100 0000V | Electrolytic 10 μF 10V | 1 |
| C237 | CD1 0 6100 0000V | Electrolytic 10 μF 10V | 1 |
| C238 | CC2 2 1500 KE00C | Ceramic 220 pF 50V ±10% | 1 |
| C239 | CC2 2 2500 KE00C | Ceramic 0.0022 μF 50V ±10% | 1 |
| C240 | CD1 0 5100 0000V | Electrolytic 1 μF 10V | 1 |
| C241 | CD1 0 5100 0000V | Electrolytic 1 μF 10V | 1 |
| C280 | CC4 7 1500 KE00C | Ceramic 470 pF 50V ±10% | 1 |
| C301 | CD1 0 7250 0001V | Electrolytic 100 μF 25V | 1 |
| C302 | CD1 0 7160 0001V | Electrolytic 100 μF 16V | 1 |
| C304 | CD4 7 4250 0000V | Electrolytic 0.47 μF 25V | 1 |
| C305 | CC2 2 2500 KE00C | Ceramic 0.0022 μF 50V ±10% | 1 |
| C306 | CM2 2 3500 K00SV | Mylar 0.022 μF 50V ±10% | 1 |
| C307 | CP8 2 2101 J000V | Polypropylene 0.0082 μF 100V ±5% | 1 |
| C308 | CM5 6 2500 K00SV | Mylar 0.0056 μF 50V ±10% | 1 |
| C309 | CM5 6 2500 K00SV | Mylar 0.0056 μF 50V ±10% | 1 |
| C310 | CM1 8 3500 K00SV | Mylar 0.018 μF 50V ±10% | 1 |
| C311 | CD1 0 7100 0001V | Electrolytic 100 μF 10V | 1 |
| C312 | CD4 7 7160 0001V | Electrolytic 470 μF 16V | 1 |
| C313 | CD4 7 7250 0001V | Electrolytic 470 μF 25V | 1 |
| C318 | CD4 7 5100 0000V | Electrolytic 4.7 μF 10V | 1 |
| D101 | 202 5 9110 18820 | Diode, 1S188 | 1 |
| D102 | 202 5 9110 18820 | Diode, 1S188 | 1 |
| D103 | 202 5 3880 44810 | Diode, DS448 | 1 |
| D104 | 202 5 3880 44810 | Diode, DS448 | 1 |
| D105 | 202 5 3880 44810 | Diode, DS448 | 1 |
| D201 | 202 5 9110 18820 | Diode, 1S188 | 1 |

| Ref. No. | Part No. | Description | Q'ty |
|---|---|---|---|
| | AMPLIFIER P.C.B. ASSY | | |
| D202 | 202 5 9110 18820 | Diode, 1S188 | 1 |
| D203 | 202 5 3880 44810 | Diode, DS448 | 1 |
| D204 | 202 5 3880 44810 | Diode, DS448 | 1 |
| D205 | 202 5 3880 44810 | Diode, DS448 | 1 |
| D301 | 202 5 3210 05120 | Diode, GZA5.1U | 1 |
| D302 | 202 5 3210 05120 | Diode, GZA5.1U | 1 |
| D304 | 202 5 3880 44810 | Diode, DS448 | 1 |
| D309 | 202 5 3880 44810 | Diode, DS448 | 1 |
| D310 | 202 5 3880 44810 | Diode, DS448 | 1 |
| D311 | 202 5 3880 44810 | Diode, DS448 | 1 |
| D312 | 202 5 3210 05120 | Diode, GZA5.1U | 1 |
| D313 | 202 5 9530 44810 | Diode, DS448 | 1 |
| D314 | 202 5 9530 44810 | Diode, DS448 | 1 |
| D321 | 202 5 3880 44810 | Diode, DS448 | 1 |
| D322 | 202 5 3880 44810 | Diode, DS448 | 1 |
| D323 | 202 5 9110 18820 | Diode, 1S188 | 1 |
| D330 | 202 5 9530 44810 | Diode, DS448 | 1 |
| D331 | 202 5 3880 44810 | Diode, DS448 | 1 |
| IC101 | 4 2069 70380 | IC, NE646B | 1 |
| IC201 | 4 2069 70380 | IC, NE646B | 1 |
| L101 | 4 2729 70290 | Coil (33 mH) | 1 |
| L102 | 4 2729 70290 | Coil (33 mH) | 1 |
| L103 | 4 2729 70342 | DOLBY Coil Filter | 1 |
| L201 | 4 2729 70290 | Coil (33 mH) | 1 |
| L202 | 4 2729 70290 | Coil (33 mH) | 1 |
| L203 | 4 2729 70342 | DOLBY Coil Filter | 1 |
| T301 | 4 2589 71720 | OSC Transformer | 1 |
| P101 | 4 2229 72968 | Potentiometer (B-20 k ohm) | 1 |
| P102 | 4 2229 72968 | Potentiometer (B-20 k ohm) | 1 |
| P103 | 4 2229 72971 | Potentiometer (B-100 k ohm) | 1 |
| P201 | 4 2229 72968 | Potentiometer (B-20 k ohm) | 1 |
| P202 | 4 2229 72968 | Potentiometer (B-20 k ohm) | 1 |
| P203 | 4 2229 72971 | Potentiometer (B-100 k ohm) | 1 |
| Q101 | 203 5 5100 69362 | Transistor, 2SC693 | 1 |
| Q102 | 203 5 5100 69362 | Transistor, 2SC693 | 1 |
| Q103 | 203 5 5100 69362 | Transistor, 2SC693 | 1 |
| Q104 | 203 5 5100 53650 | Transistor, 2SC536 | 1 |
| Q105 | 203 5 5100 53650 | Transistor, 2SC536 | 1 |
| Q106 | 203 5 5100 53650 | Transistor, 2SC536 | 1 |
| Q107 | 203 5 5100 53650 | Transistor, 2SC536 | 1 |
| Q108 | 203 5 5100 53650 | Transistor, 2SC536 | 1 |
| Q109 | 203 5 5100 53650 | Transistor, 2SC536 | 1 |
| Q110 | 203 5 5100 53650 | Transistor, 2SC536 | 1 |
| Q112 | 203 5 5100 53650 | Transistor, 2SC536 | 1 |
| Q113 | 203 5 5100 53650 | Transistor, 2SC536 | 1 |
| Q114 | 203 5 5100 53650 | Transistor, 2SC536 | 1 |
| Q115 | 203 5 5100 53650 | Transistor, 2SC536 | 1 |
| Q117 | 203 5 5100 53650 | Transistor, 2SC536 | 1 |
| Q201 | 203 5 5100 69362 | Transistor, 2SC693 | 1 |
| Q202 | 203 5 5100 69362 | Transistor, 2SC693 | 1 |
| Q203 | 203 5 5100 69362 | Transistor, 2SC693 | 1 |
| Q204 | 203 5 5100 53650 | Transistor, 2SC536 | 1 |
| Q205 | 203 5 5100 53650 | Transistor, 2SC536 | 1 |
| Q206 | 203 5 5100 53650 | Transistor, 2SC536 | 1 |
| Q207 | 203 5 5100 53650 | Transistor, 2SC536 | 1 |
| Q208 | 203 5 5100 53650 | Transistor, 2SC536 | 1 |
| Q209 | 203 5 5100 53650 | Transistor, 2SC536 | 1 |
| Q210 | 203 5 5100 53650 | Transistor, 2SC536 | 1 |
| Q212 | 203 5 5100 53650 | Transistor, 2SC536 | 1 |
| Q213 | 203 5 5100 53650 | Transistor, 2SC536 | 1 |
| Q214 | 203 5 5100 53650 | Transistor, 2SC536 | 1 |
| Q215 | 203 5 5100 53650 | Transistor, 2SC536 | 1 |
| Q217 | 203 5 5100 53650 | Transistor, 2SC536 | 1 |
| Q301 | 4 2039 70431 | Transistor, 2SC1815 | 1 |
| Q302 | 4 2039 70431 | Transistor, 2SC1815 | 1 |
| Q303 | 203 5 5100 53650 | Transistor, 2SC536 | 1 |
| Q304 | 203 5 5100 53650 | Transistor, 2SC536 | 1 |
| Q305 | 203 5 5100 53650 | Transistor, 2SC536 | 1 |
| Q306 | 203 5 5100 53650 | Transistor, 2SC536 | 1 |

# PARTS LIST (Continued)

| Ref. No. | Part No. | Description | Q'ty |
|---|---|---|---|
| | AMPLIFIER P.C.B. ASSY | | |
| Q307 | 203 5 5100 53650 | Transistor, 2SC536 | 1 |
| Q312 | 203 5 5100 53650 | Transistor, 2SC536 | 1 |
| R101 | RD1 5 3251 JM000 | Carbon 15 k ohm 1/4W ±5% | 1 |
| R102 | RD2 7 4251 JM000 | Carbon 270 k ohm 1/4W ±5% | 1 |
| R103 | RD4 7 0251 JM000 | Carbon 47 ohm 1/4W ±5% | 1 |
| R104 | RD2 2 4251 JM000 | Carbon 220 k ohm 1/4W ±5% | 1 |
| R105 | RD1 5 3251 JM000 | Carbon 15 k ohm 1/4W ±5% | 1 |
| R106 | RD1 0 2251 JM000 | Carbon 1 k ohm 1/4W ±5% | 1 |
| R107 | RD1 0 4251 JM000 | Carbon 100 k ohm 1/4W ±5% | 1 |
| R108 | RD1 8 2251 JM000 | Carbon 1.8 k ohm 1/4W ±5% | 1 |
| R109 | RD3 9 2251 JM000 | Carbon 3.9 k ohm 1/4W ±5% | 1 |
| R110 | RD3 9 4251 JM000 | Carbon 390 k ohm 1/4W ±5% | 1 |
| R111 | RD3 9 2251 JM000 | Carbon 3.9 k ohm 1/4W ±5% | 1 |
| R112 | RD1 0 4251 JM000 | Carbon 100 k ohm 1/4W ±5% | 1 |
| R113 | RD3 9 2251 JM000 | Carbon 3.9 k ohm 1/4W ±5% | 1 |
| R114 | RD4 7 2251 JM000 | Carbon 4.7 k ohm 1/4W ±5% | 1 |
| R115 | RD1 0 2251 JM000 | Carbon 1 k ohm 1/4W ±5% | 1 |
| R116 | RD1 0 2251 JM000 | Carbon 1 k ohm 1/4W ±5% | 1 |
| R117 | RD2 2 4251 JM000 | Carbon 220 k ohm 1/4W ±5% | 1 |
| R118 | RD3 3 1251 JS000 | Carbon 330 ohm 1/4W ±5% | 1 |
| R119 | RD1 5 4251 JM000 | Carbon 150 k ohm 1/4W ±5% | 1 |
| R120 | RD1 0 2251 JM000 | Carbon 1 k ohm 1/4W ±5% | 1 |
| R121 | RD2 7 4251 JM000 | Carbon 270 k ohm 1/4W ±5% | 1 |
| R122 | RD3 3 2251 JM000 | Carbon 3.3 k ohm 1/4W ±5% | 1 |
| R123 | RD4 7 3251 JM000 | Carbon 47 k ohm 1/4W ±5% | 1 |
| R124 | RD1 8 1251 JM000 | Carbon 180 ohm 1/4W ±5% | 1 |
| R125 | RD1 0 3251 JM000 | Carbon 10 k ohm 1/4W ±5% | 1 |
| R126 | RD1 0 3251 JM000 | Carbon 10 k ohm 1/4W ±5% | 1 |
| R127 | RD5 6 2251 JM000 | Carbon 5.6 k ohm 1/4W ±5% | 1 |
| R128 | RD1 0 2251 JM000 | Carbon 1 k ohm 1/4W ±5% | 1 |
| R129 | RD1 0 2251 JM000 | Carbon 1 k ohm 1/4W ±5% | 1 |
| R130 | RD2 2 2251 JM000 | Carbon 2.2 k ohm 1/4W ±5% | 1 |
| R131 | RD1 0 5251 JM000 | Carbon 1M ohm 1/4W ±5% | 1 |
| R132 | RD2 2 2251 JM000 | Carbon 2.2 k ohm 1/4W ±5% | 1 |
| R133 | RD6 8 2251 JM000 | Carbon 6.8 k ohm 1/4W ±5% | 1 |
| R134 | RD1 5 2251 JM000 | Carbon 1.5 k ohm 1/4W ±5% | 1 |
| R135 | RD4 3 4251 JS000 | Carbon 430 k ohm 1/4W ±5% | 1 |
| R136 | RD6 2 3251 JS000 | Carbon 62 k ohm 1/4W ±5% | 1 |
| R137 | RD5 6 2251 JM000 | Carbon 5.6 k ohm 1/4W ±5% | 1 |
| R138 | RD7 5 1251 JM000 | Carbon 750 ohm 1/4W ±5% | 1 |
| R139 | RD2 2 3251 JM000 | Carbon 22 k ohm 1/4W ±5% | 1 |
| R140 | RD1 5 3251 JM000 | Carbon 15 k ohm 1/4W ±5% | 1 |
| R141 | RD1 0 3251 JM000 | Carbon 10 k ohm 1/4W ±5% | 1 |
| R142 | RD5 6 1251 JM000 | Carbon 560 ohm 1/4W ±5% | 1 |
| R143 | RD6 8 2251 JM000 | Carbon 6.8 k ohm 1/4W ±5% | 1 |
| R144 | RD1 0 3251 JM000 | Carbon 10 k ohm 1/4W ±5% | 1 |
| R145 | RD8 2 3251 JM000 | Carbon 82 k ohm 1/4W ±5% | 1 |
| R146 | RD8 2 2251 JM000 | Carbon 8.2 k ohm 1/4W ±5% | 1 |
| R147 | RD2 7 0251 JM000 | Carbon 27 ohm 1/4W ±5% | 1 |
| R148 | RD6 8 1251 JM000 | Carbon 680 ohm 1/4W ±5% | 1 |
| R149 | RD5 6 0251 JM000 | Carbon 56 ohm 1/4W ±5% | 1 |
| R150 | RD3 9 2251 JS000 | Carbon 3.9 k ohm 1/4W ±5% | 1 |
| R151 | RD2 2 2251 JM000 | Carbon 2.2 k ohm 1/4W ±5% | 1 |
| R152 | RD1 8 4251 JM000 | Carbon 180 k ohm 1/4W ±5% | 1 |
| R153 | RD2 7 3251 JM000 | Carbon 27 k ohm 1/4W ±5% | 1 |
| R154 | RD3 3 2251 JM000 | Carbon 3.3 k ohm 1/4W ±5% | 1 |
| R155 | RD2 7 1251 JM000 | Carbon 270 ohm 1/4W ±5% | 1 |
| R156 | RD1 1 3251 JM000 | Carbon 11 k ohm 1/4W ±5% | 1 |
| R157 | RD1 0 5251 JM000 | Carbon 1M ohm 1/4W ±5% | 1 |
| R158 | RD2 2 3251 JM000 | Carbon 22 k ohm 1/4W ±5% | 1 |
| R159 | RD1 0 3251 JM000 | Carbon 10 k ohm 1/4W ±5% | 1 |
| R160 | RD3 3 3251 JM000 | Carbon 33 k ohm 1/4W ±5% | 1 |
| R161 | RD2 2 3251 JM000 | Carbon 22 k ohm 1/4W ±5% | 1 |
| R162 | RD2 2 3251 JM000 | Carbon 22 k ohm 1/4W ±5% | 1 |
| R164 | RD4 7 3251 JM000 | Carbon 47 k ohm 1/4W ±5% | 1 |
| R165 | RD2 2 3251 JM000 | Carbon 22 k ohm 1/4W ±5% | 1 |
| R166 | RD1 0 3251 JM000 | Carbon 10 k ohm 1/4W ±5% | 1 |
| R169 | RD1 0 3251 JM000 | Carbon 10 k ohm 1/4W ±5% | 1 |
| R170 | RD1 0 3251 JM000 | Carbon 10 k ohm 1/4W ±5% | 1 |
| R171 | RD1 0 3251 JS000 | Carbon 10 k ohm 1/4W ±5% | 1 |

| Ref. No. | Part No. | Description | Q'ty |
|---|---|---|---|
| | AMPLIFIER P.C.B. ASSY | | |
| R172 | RD2 2 3251 JS000 | Carbon 22 k ohm 1/4W ±5% | 1 |
| R173 | RD3 0 3251 JS000 | Carbon 30 k ohm 1/4W ±5% | 1 |
| R174 | RD1 0 3251 JS000 | Carbon 10 k ohm 1/4W ±5% | 1 |
| R201 | RD1 5 3251 JM000 | Carbon 15 k ohm 1/4W ±5% | 1 |
| R202 | RD2 7 4251 JM000 | Carbon 270 k ohm 1/4W ±5% | 1 |
| R203 | RD4 7 0251 JM000 | Carbon 47 ohm 1/4W ±5% | 1 |
| R204 | RD2 2 4251 JM000 | Carbon 220 k ohm 1/4W ±5% | 1 |
| R205 | RD1 5 3251 JM000 | Carbon 15 k ohm 1/4W ±5% | 1 |
| R206 | RD1 0 2251 JM000 | Carbon 1 k ohm 1/4W ±5% | 1 |
| R207 | RD1 0 4251 JM000 | Carbon 100 k ohm 1/4W ±5% | 1 |
| R208 | RD1 8 2251 JM000 | Carbon 1.8 k ohm 1/4W ±5% | 1 |
| R209 | RD3 9 2251 JM000 | Carbon 3.9 k ohm 1/4W ±5% | 1 |
| R210 | RD3 9 4251 JM000 | Carbon 390 k ohm 1/4W ±5% | 1 |
| R211 | RD3 9 2251 JM000 | Carbon 3.9 k ohm 1/4W ±5% | 1 |
| R212 | RD1 0 4251 JM000 | Carbon 100 k ohm 1/4W ±5% | 1 |
| R213 | RD3 9 2251 JM000 | Carbon 3.9 k ohm 1/4W ±5% | 1 |
| R214 | RD4 7 2251 JM000 | Carbon 4.7 k ohm 1/4W ±5% | 1 |
| R215 | RD1 0 2251 JM000 | Carbon 1 k ohm 1/4W ±5% | 1 |
| R216 | RD1 0 2251 JM000 | Carbon 1 k ohm 1/4W ±5% | 1 |
| R217 | RD2 2 4251 JM000 | Carbon 220 k ohm 1/4W ±5% | 1 |
| R218 | RD3 3 1251 JS000 | Carbon 330 ohm 1/4W ±5% | 1 |
| R219 | RD1 5 4251 JM000 | Carbon 150 k ohm 1/4W ±5% | 1 |
| R220 | RD1 0 2251 JM000 | Carbon 1 k ohm 1/4W ±5% | 1 |
| R221 | RD2 7 4251 JM000 | Carbon 270 k ohm 1/4W ±5% | 1 |
| R222 | RD3 3 2251 JM000 | Carbon 3.3 k ohm 1/4W ±5% | 1 |
| R223 | RD4 7 3251 JM000 | Carbon 47 k ohm 1/4W ±5% | 1 |
| R224 | RD1 8 1251 JM000 | Carbon 180 ohm 1/4W ±5% | 1 |
| R225 | RD1 0 3251 JM000 | Carbon 10 k ohm 1/4W ±5% | 1 |
| R226 | RD1 0 3251 JM000 | Carbon 10 k ohm 1/4W ±5% | 1 |
| R227 | RD5 6 2251 JM000 | Carbon 5.6 k ohm 1/4W ±5% | 1 |
| R228 | RD1 0 2251 JM000 | Carbon 1 k ohm 1/4W ±5% | 1 |
| R229 | RD1 0 2251 JM000 | Carbon 1 k ohm 1/4W ±5% | 1 |
| R230 | RD2 2 2251 JM000 | Carbon 2.2 k ohm 1/4W ±5% | 1 |
| R231 | RD1 0 5251 JM000 | Carbon 1M ohm 1/4W ±5% | 1 |
| R232 | RD2 2 2251 JM000 | Carbon 2.2 k ohm 1/4W ±5% | 1 |
| R233 | RD6 8 2251 JM000 | Carbon 6.8 k ohm 1/4W ±5% | 1 |
| R234 | RD1 5 2251 JM000 | Carbon 1.5 k ohm 1/4W ±5% | 1 |
| R235 | RD4 3 4251 JS000 | Carbon 430 k ohm 1/4W ±5% | 1 |
| R236 | RD6 2 3251 JS000 | Carbon 62 k ohm 1/4W ±5% | 1 |
| R237 | RD5 6 2251 JM000 | Carbon 5.6 k ohm 1/4W ±5% | 1 |
| R238 | RD7 5 1251 JM000 | Carbon 750 ohm 1/4W ±5% | 1 |
| R239 | RD2 2 3251 JM000 | Carbon 22 k ohm 1/4W ±5% | 1 |
| R240 | RD1 5 3251 JS000 | Carbon 15 k ohm 1/4W ±5% | 1 |
| R241 | RD1 0 3251 JM000 | Carbon 10 k ohm 1/4W ±5% | 1 |
| R242 | RD5 6 1251 JM000 | Carbon 560 ohm 1/4W ±5% | 1 |
| R243 | RD6 8 2251 JM000 | Carbon 6.8 k ohm 1/4W ±5% | 1 |
| R244 | RD1 0 3251 JM000 | Carbon 10 k ohm 1/4W ±5% | 1 |
| R245 | RD8 2 3251 JM000 | Carbon 82 k ohm 1/4W ±5% | 1 |
| R246 | RD8 2 2251 JM000 | Carbon 8.2 k ohm 1/4W ±5% | 1 |
| R247 | RD2 7 0251 JM000 | Carbon 27 ohm 1/4W ±5% | 1 |
| R248 | RD6 8 1251 JM000 | Carbon 680 ohm 1/4W ±5% | 1 |
| R249 | RD5 6 0251 JM000 | Carbon 56 ohm 1/4W ±5% | 1 |
| R250 | RD3 9 2251 JM000 | Carbon 3.9 k ohm 1/4W ±5% | 1 |
| R251 | RD2 2 2251 JM000 | Carbon 2.2 k ohm 1/4W ±5% | 1 |
| R252 | RD1 8 4251 JM000 | Carbon 180 k ohm 1/4W ±5% | 1 |
| R253 | RD2 7 3251 JM000 | Carbon 27 k ohm 1/4W ±5% | 1 |
| R254 | RD3 3 2251 JM000 | Carbon 3.3 k ohm 1/4W ±5% | 1 |
| R255 | RD2 7 1251 JM000 | Carbon 270 ohm 1/4W ±5% | 1 |
| R256 | RD1 1 3251 JM000 | Carbon 11 k ohm 1/4W ±5% | 1 |
| R257 | RD1 0 5251 JM000 | Carbon 1M ohm 1/4W ±5% | 1 |
| R258 | RD2 2 3251 JM000 | Carbon 22 k ohm 1/4W ±5% | 1 |
| R259 | RD1 0 3251 JM000 | Carbon 10 k ohm 1/4W ±5% | 1 |
| R260 | RD3 3 3251 JM000 | Carbon 33 k ohm 1/4W ±5% | 1 |
| R261 | RD2 2 3251 JM000 | Carbon 22 k ohm 1/4W ±5% | 1 |
| R262 | RD2 2 3251 JM000 | Carbon 22 k ohm 1/4W ±5% | 1 |
| R264 | RD4 7 3251 JM000 | Carbon 47 k ohm 1/4W ±5% | 1 |
| R265 | RD2 2 3251 JM000 | Carbon 22 k ohm 1/4W ±5% | 1 |
| R266 | RD1 0 3251 JM000 | Carbon 10 k ohm 1/4W ±5% | 1 |
| R269 | RD1 0 3251 JM000 | Carbon 10 k ohm 1/4W ±5% | 1 |
| R270 | RD1 0 3251 JM000 | Carbon 10 k ohm 1/4W ±5% | 1 |

# PARTS LIST (Continued)

| Ref. No. | Part No. | Description | Q'ty |
|---|---|---|---|
| | **AMPLIFIER P.C.B. ASSY** | | |
| R271 | RD1 0 3251 JS000 | Carbon 10 k ohm 1/4W ±5% | 1 |
| R272 | RD2 2 3251 JS000 | Carbon 22 k ohm 1/4W ±5% | 1 |
| R273 | RD3 0 3251 JS000 | Carbon 30 k ohm 1/4W ±5% | 1 |
| R274 | RD1 0 3251 JS000 | Carbon 10 k ohm 1/4W ±5% | 1 |
| R301 | RD5 6 2251 JM000 | Carbon 5.6 k ohm 1/4W ±5% | 1 |
| R302 | RD1 0 3251 JM000 | Carbon 10 k ohm 1/4W ±5% | 1 |
| R303 | RD6 8 3251 JM000 | Carbon 68 k ohm 1/4W ±5% | 1 |
| R304 | RD3 3 3251 JM000 | Carbon 33 k ohm 1/4W ±5% | 1 |
| R305 | RD2 7 3251 JM000 | Carbon 27 k ohm 1/4W ±5% | 1 |
| R306 | RD3 9 3251 JM000 | Carbon 39 k ohm 1/4W ±5% | 1 |
| R307 | RD3 9 3251 JS000 | Carbon 39 k ohm 1/4W ±5% | 1 |
| R308 | RD1 8 0251 JS000 | Carbon 18 ohm 1/4W ±5% | 1 |
| R309 | RH3 9 1501 JZ000 | Metal 390 ohm 1/2W ±5% | 1 |
| R310 | RH2 7 1501 JZ000 | Metal 270 ohm 1/2W | 1 |
| R314 | RD1 2 3251 JS000 | Carbon 12 k ohm 1/4W ±5% | 1 |
| R315 | RD1 0 4251 JM000 | Carbon 100 k ohm 1/4W ±5% | 1 |
| R316 | RD1 0 4251 JM000 | Carbon 100 k ohm 1/4W ±5% | 1 |
| R317 | RD6 8 2251 JM000 | Carbon 6.8 k ohm 1/4W ±5% | 1 |
| R320 | RD2 2 1251 JM000 | Carbon 220 ohm 1/4W ±5% | 1 |
| R321 | RD5 6 1251 JM000 | Carbon 560 ohm 1/4W ±5% | 1 |
| R322 | RD1 1 3251 JM000 | Carbon 11 k ohm 1/4W ±5% | 1 |
| R323 | RD8 2 2251 JM000 | Carbon 8.2 k ohm 1/4W ±5% | 1 |
| R324 | RD6 2 2251 JS000 | Carbon 6.2 k ohm 1/4W ±5% | 1 |
| R325 | RD1 0 2251 JM000 | Carbon 1 k ohm 1/4W ±5% | 1 |
| R326 | RD1 0 2251 JM000 | Carbon 1 k ohm 1/4W ±5% | 1 |
| R327 | RD1 0 2251 JM000 | Carbon 1 k ohm 1/4W ±5% | 1 |
| R328 | RD1 2 2251 JM000 | Carbon 1.2 k ohm 1/4W ±5% | 1 |
| R329 | RD1 2 2251 JM000 | Carbon 1.2 k ohm 1/4W ±5% | 1 |
| R330 | RD1 2 2251 JM000 | Carbon 1.2 k ohm 1/4W ±5% | 1 |
| R331 | RD4 7 3251 JM000 | Carbon 47 k ohm 1/4W ±5% | 1 |
| R333 | RD1 0 1251 JS000 | Carbon 100 ohm 1/4W ±5% | 1 |
| S1 | 4 2319 70598 | Slide Switch (Record/Play) | 1 |
| S2 | 4 2319 74110 | Push Switch (Input Select) | 1 |
| S3 | 4 2319 74110 | Push Switch (Tape Select) | 1 |
| S4 | 4 2319 74110 | Push Switch (Tape Select) | 1 |
| S5 | 4 2319 74120 | Push Switch (DOLBY NR) | 1 |
| | **MECHANISM** | | |
| VR1 | 4 1329 76120 | Volume P.C.B. Assy, Left (Input Level, A 50k) | 1 |
| VR2 | 4 1329 76110 | Volume P.C.B. Assy, Right (Input Level, A 50k) | 1 |
| J1 | 4 1329 76340 | Microphone Jack Assy | 1 |
| J3 | 4 2359 73902 | Jack 1P (Headphone) | 1 |
| D324 | 4 2029 70880 | LED (SLP-144B) (0VU) | 1 |
| D325 | 4 2029 70880 | LED (SLP-144B) (+3VU) | 1 |
| D326 | 4 2029 70880 | LED (SLP-144B) (+5VU) | 1 |
| | 4 2269 33310 | P.C.B. (Peak LED) | 1 |
| S6 | 4 2319 73110 | Leaf Switch (Muting) | 1 |
| S7 | 4 2319 72010 | Leaf Switch (Motor) | 1 |
| S8 | 4 2319 73450 | Leaf Switch (ASF) | 1 |
| S9 | 4 1329 76130 | Record Mute P.C.B. Assy | 1 |
| S10 | ⚠ 4 2319 73974 | Power Switch | 1 |
| S11 | ⚠ 4 2319 72140 | Slide Switch (Voltage Select) | 1 |
| CN1 | 4 2359 75001 | Connector 6P Assy | 1 |
| CN2 | 4 2359 74991 | Connector 3P Assy | 1 |
| | ⚠ 4 2379 70560 | Terminal | 1 |
| HD1 | 4 2429 71670 | R/P Head | 1 |
| HD2 | 4 2429 71710 | Erase Head | 1 |
| | ⚠ 4 2439 70352 | Power Cord | 1 |
| T302 | ⚠ 4 2519 73190 | Power Transformer | 1 |
| SL1 | 4 2649 70231 | ASF Solenoid | 1 |
| ME1 | 4 5119 70630 | Indicator | 1 |
| | 4 5279 70836 | Motor | 1 |
| PL1 | 4 6129 70480 | Lamp | 1 |
| | 141 2 8519 75500 | Spring | 1 |
| | 141 0 3119 14509 | Chassis Assy | 1 |
| | 141 0 3169 05200 | Chassis Bracket Assy | 1 |
| | 141 0 3519 16800 | Flywheel Support Assy | 1 |
| | 141 0 5219 03903 | Flywheel Assy | 1 |
| | 141 0 5419 02401 | Pinch Roller Assy | 1 |
| | 141 2 3529 26300 | Spacer, Stop Lever | 1 |

| Ref. No. | Part No. | Description | Q'ty |
|---|---|---|---|
| | **MECHANISM** | | |
| | 141 2 3529 26400 | Spacer, Lever | 1 |
| | 141 2 4219 02900 | Screw | 1 |
| | 141 2 4539 20100 | Spring, Washer | 1 |
| | 141 2 7419 62900 | Lever, Stop Base | 1 |
| | 141 0 5519 05901 | Friction Assy | 1 |
| | 141 0 5519 06400 | Eject Gear Assy | 1 |
| | 141 0 7319 18901 | Plate Assy | 1 |
| | 141 0 7439 05400 | Fast Wind Arm Assy | 1 |
| | 141 0 7439 06300 | Take-up Arm Assy | 1 |
| | 141 2 1149 18700 | Cabinet Compartment | 1 |
| | 141 2 1149 20905 | Chassis Panel | 1 |
| | 141 2 1249 17501 | Cassette Lid Frame | 1 |
| | 141 2 1519 12202 | Reflection | 1 |
| | 141 2 1619 68600 | Button Lever | 6 |
| | 141 2 1619 68700 | Reset Button | 1 |
| | 141 2 3119 12901 | Cabinet Chassis | 1 |
| | 141 2 3229 29200 | Shield Plate, Volume | 1 |
| | 141 2 3519 37000 | Cassette Holder, Left | 1 |
| | 141 2 3519 37100 | Cassette Holder, Right | 1 |
| | 141 2 3519 49300 | Chassis Bracket | 1 |
| | 141 2 3529 17900 | Spacer, Brake | 1 |
| | 141 2 3529 18101 | Spacer, Head | 1 |
| | 141 2 3529 19100 | Spacer, Base | 1 |
| | 141 2 3529 19401 | Spacer, Gear | 1 |
| | 141 2 3529 20600 | Spacer, Switch Plate | 1 |
| | 141 2 3529 21900 | Spacer, Erase Head | 1 |
| | 141 2 3789 06000 | Motor Bracket | 1 |
| | 141 2 3899 10300 | Heyco Bushing | 1 |
| | 141 2 4219 04000 | Screw | 1 |
| | 141 2 4219 05400 | Screw, Washer | 3 |
| | 141 2 4219 09000 | Screw | 2 |
| | 141 2 4219 11600 | Screw | 1 |
| | 141 2 4219 12100 | Screw, Washer | 1 |
| | 141 2 4219 13200 | Screw, Washer | 4 |
| | 141 2 4219 17900 | Screw | 2 |
| | 141 2 4219 22600 | Screw, Poly Wave | 2 |
| | 141 2 4459 20501 | Brake Cover | 2 |
| | 141 2 4459 21401 | Cushion | 1 |
| | 141 2 4469 00500 | Flywheel Thrust | 1 |
| | 141 2 4469 22000 | Cushion | 4 |
| | 141 2 4539 15800 | Washer | 2 |
| | 141 2 4539 16200 | Washer | 1 |
| | 141 2 4539 17600 | Washer | 1 |
| | 141 2 4539 18400 | Washer | 1 |
| | 141 2 4729 04200 | Lug | 2 |
| | 141 2 4729 05300 | Wire Band | 1 |
| | 141 2 5319 03500 | Fin Reel | 2 |
| | 141 2 5319 05100 | Gear Reel | 2 |
| | 141 2 5369 00400 | Cap, Reel Plate | 2 |
| | 141 2 5519 04400 | Pulley Intermediate | 1 |
| | 141 2 5519 22000 | Take-up Gear | 1 |
| | 141 2 5519 22300 | Gear, Fast Wind | 2 |
| | 141 2 5519 22400 | Rewind Gear | 1 |
| | 141 2 5519 27200 | Auto Shut-off Pulley | 1 |
| | 141 2 5559 04500 | Eject Gear Plate | 1 |
| | 141 2 5649 04300 | Counter Belt | 1 |
| | 141 2 5649 09900 | Take-up Belt | 1 |
| | 141 2 5649 11001 | Drive Belt | 1 |
| | 141 2 5649 11100 | Auto Shut-off Belt | 1 |
| | 141 2 6129 04500 | Spindle Button Lever | 1 |
| | 141 2 6139 13101 | Button Frame | 1 |
| | 141 2 7149 03400 | Brake | 1 |
| | 141 2 7319 32200 | Slide Base Plate | 1 |
| | 141 2 7319 33000 | Cassette Lid Lock Plate | 1 |
| | 141 2 7319 33200 | Lock Plate | 1 |
| | 141 2 7319 34000 | Pause Plate | 1 |
| | 141 2 7319 35401 | Switch Plate | 1 |
| | 141 2 7319 37900 | Head Plate | 1 |
| | 141 2 7359 02000 | Record Wire | 1 |
| | 141 2 7419 48100 | Fast Wind Lever | 1 |

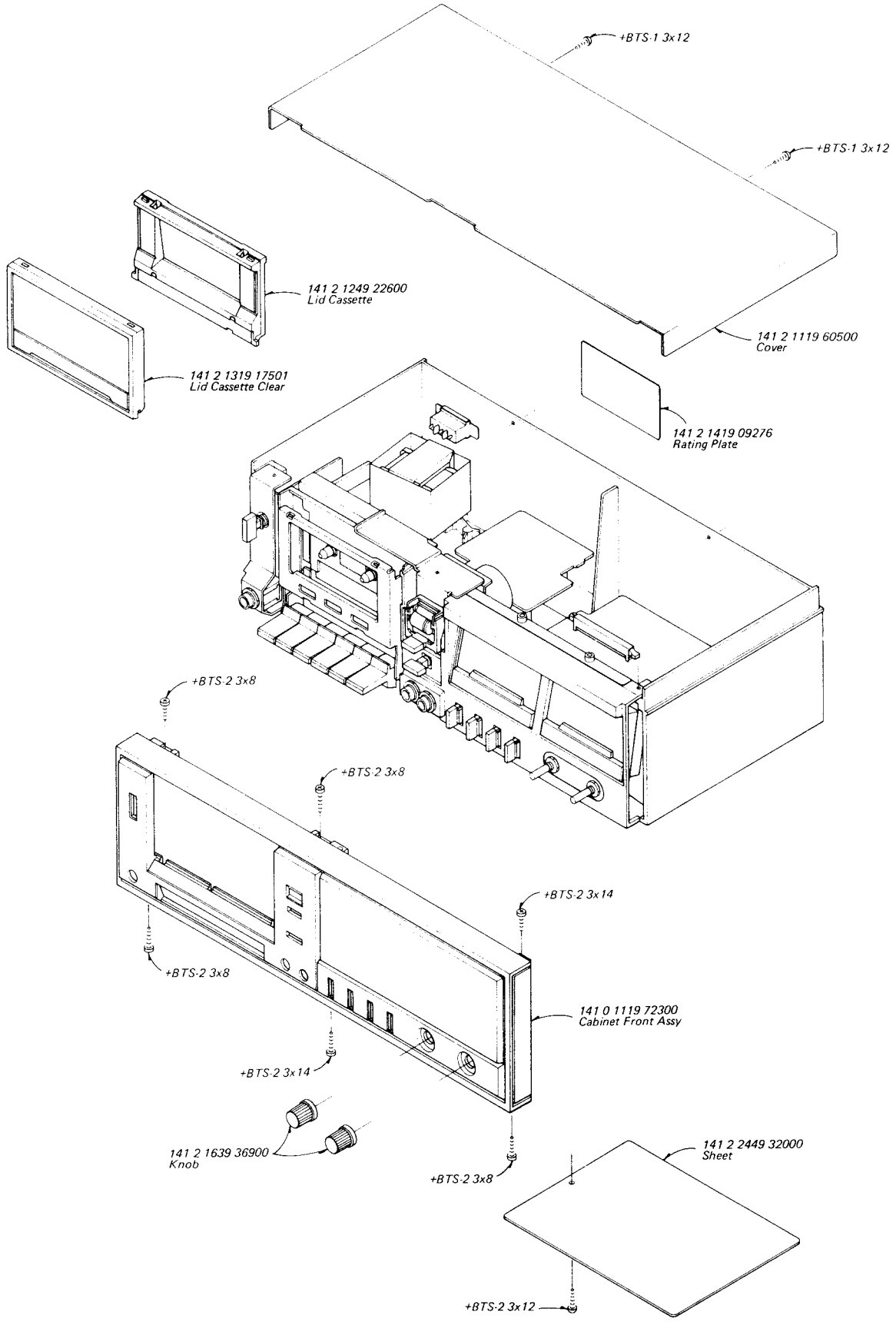
# PARTS LIST (Continued)

| Ref. No. | Part No. | Description | Q'ty |
|---|---|---|---|
| | MECHANISM | | |
| | 141 2 7419 48300 | Record Stop Lever | 1 |
| | 141 2 7419 51000 | Review Lever | 1 |
| | 141 2 7419 51600 | Auto Shut-off Lever | 1 |
| | 141 2 7419 51701 | Stop Lever | 1 |
| | 141 2 7419 51900 | Stop Eject Lever | 1 |
| | 141 2 7419 53500 | Record Link Lever | 1 |
| | 141 2 7419 55900 | Pause Lever | 1 |
| | 141 2 7419 56100 | ASF Lever | 1 |
| | 141 2 7419 58100 | Stopper Lever | 1 |
| | 141 2 7419 58300 | Cue Lever | 1 |
| | 141 2 7419 64700 | Record Lever | 1 |
| | 141 2 8119 07101 | Counter | 1 |
| | 141 2 8139 05500 | Counter Bracket | 1 |
| | 141 2 8219 24400 | Chip, Cassette Lid Lock | 1 |
| | 141 2 8419 09400 | Interlock Lever | 1 |
| | 141 2 8429 05400 | Record Plate | 1 |
| | 141 2 8519 03600 | Spring, Shut-off Lever | 1 |
| | 141 2 8519 19300 | Spring, Brake | 1 |
| | 141 2 8519 67100 | Spring, Fast Wind | 1 |
| | 141 2 8519 67700 | Spring, Pinch Roller | 1 |
| | 141 2 8519 67900 | Spring, Reel | 1 |
| | 141 2 8519 67901 | Spring, Supply Reel | 1 |
| | 141 2 8519 68100 | Spring, Pause | 1 |
| | 141 2 8519 70100 | Spring, Button Lever | 3 |
| | 141 2 8519 70300 | Spring, Pause Plate | 2 |
| | 141 2 8519 70400 | Spring, Slide Base Plate | 1 |
| | 141 2 8519 70500 | Spring, Record Plate | 1 |
| | 141 2 8519 71700 | Spring, Cassette Lid | 1 |
| | 141 2 8519 71800 | Spring, Interlock | 1 |
| | 141 2 8519 71900 | Spring, Take-up Arm | 1 |
| | 141 2 8519 72000 | Spring, Auto Shut-off | 1 |
| | 141 2 8519 73400 | Spring, Stop Lever | 1 |
| | 141 2 8519 75300 | Spring, Pause Lever | 1 |
| | 141 2 8519 75500 | Spring | 1 |
| | 141 2 8519 78200 | Spring, Switch Plate | 1 |
| | 141 2 8519 78600 | Spring, Slide Base | 1 |
| | 141 2 8519 80400 | Spring, Earth | 1 |
| | 141 2 8519 89600 | Spring, Record Lever | 1 |
| | 141 2 8539 31001 | Spring, Base | 1 |
| | 141 2 8539 31300 | Spring, Cassette | 1 |
| | 141 2 8539 31400 | Spring, Cassette | 2 |
| | 141 2 8539 35800 | Spring, Flywheel | 1 |
| | 101 3 1702 00811 | Screw, Bind Hd. +M2.0x8 | 2 |
| | 110 3 3202 00082 | Tooth Outer Washer-B M2.0 | 1 |
| | 101 3 1302 00411 | Screw, Pan Hd. +M2.0x4 | 1 |
| | 101 3 1302 60511 | Screw, Pan Hd. +M2.6x5 | 4 |
| | 101 3 1302 60811 | Screw, Pan Hd. +M2.6x8 | 1 |
| | 101 3 1702 00611 | Screw, Bind Hd. +M2.0x6 | 1 |
| | 101 3 1702 00618 | Screw, Bind Hd. +M2.0x6 | 2 |
| | 101 3 2502 00811 | Screw, Cylinder Hd. -M2.0x8 | 1 |
| | 103 3 1302 60511 | Screw, Pan Hd. Tapping-2 +M2.6x5 | 3 |
| | 103 3 1302 60611 | Screw, Pan Hd. Tapping-2 +M2.6x6 | 7 |
| | 103 3 1302 61011 | Screw, Pan Hd. Tapping-2 +M2.6x10 | 1 |
| | 103 3 1302 61211 | Screw, Pan Hd. Tapping-2 +M2.6x12 | 2 |
| | 103 3 1702 00611 | Screw, Bind Hd. Tapping-2 +M2.0x6 | 1 |
| | 103 3 1702 00811 | Screw, Bind Hd. Tapping-2 +M2.0x8 | 1 |
| | 103 3 1702 60811 | Screw, Bind Hd. Tapping-2 +M2.6x8 | 1 |
| | 103 3 1703 01211 | Screw, Bind Hd. Tapping-2 +M3.0x12 | 6 |
| | 103 3 1703 01218 | Screw, Bind Hd. Tapping-2 +M3.0x12 | 2 |
| | 110 3 9260 60025 | Washer M2.6x6.0x0.2 | 1 |
| | 110 3 9321 00102 | Washer M3.2x10.0x1.0 | 1 |
| | 112 3 1302 00082 | E Ring M2.0 | 1 |
| | 112 3 1302 50082 | E Ring M2.5 | 3 |
| | 131 3 1302 00611 | Screw, Pan Hd. C SW +M2x6 | 2 |
| | 131 3 1303 00511 | Screw, Pan Hd. C SW +M3.0x5 | 6 |
| | 135 3 1303 00611 | Screw, Pan Hd. C PW +M3.0x6 | 1 |
| | 143 3 1302 60811 | Screw, Pan Hd. Tapping-B +M2.6x8 | 1 |
| | 143 3 1303 01811 | Screw, Pan Hd. Tapping-B +M3.0x18 | 1 |
| | 143 3 1702 60818 | Screw, Bind Hd. Tapping-B +M2.6x8 | 4 |
| | 143 3 1903 00811 | Screw, Brazier Hd. Tapping-B +M3.0x8 | 2 |
| | 143 3 1903 01011 | Screw, Brazier Hd. Tapping-B +M3.0x10 | 14 |
| | 143 3 1903 01211 | Screw, Brazier Hd. Tapping-B +M3.0x12 | 4 |
| Q311 | 4 2039 70601 | Transistor, 2SC1846 | 1 |
| | 4 2269 33320 | Transistor, P.C.B. | 1 |
| C332 | CD2 2 7160 0001V | Electrolytic 220 μF 16V | 1 |

NOTES: 1. Parts order must contain Model Number, Part Number and Description.
2. Ordering quantity of screws and resistors must be multiple of 10 pcs.

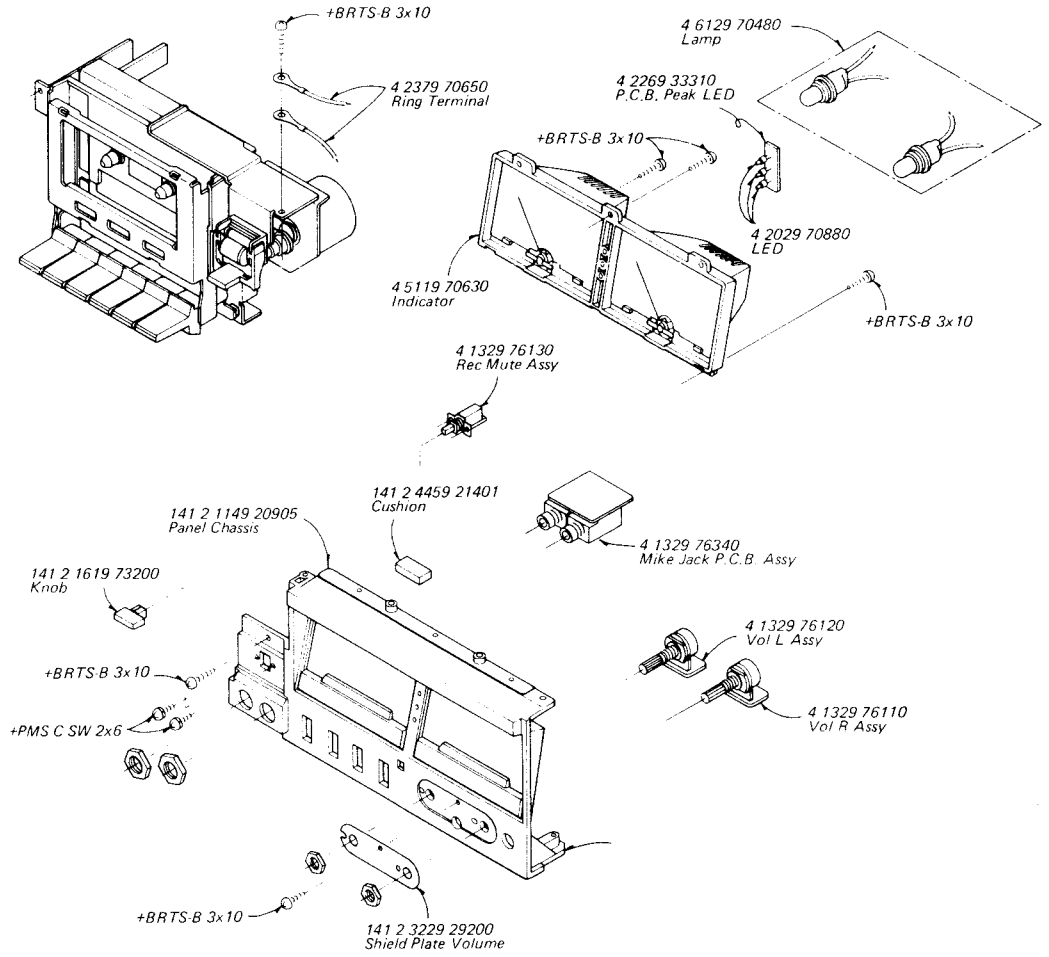
# EXPLODED VIEW

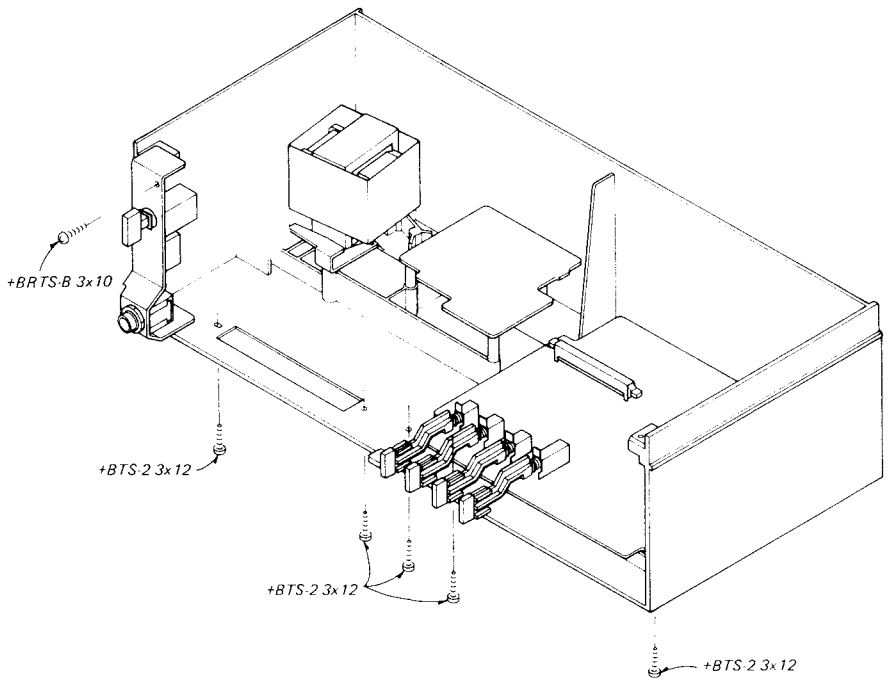
**(Cabinet)**



# EXPLODED VIEW (Continued)

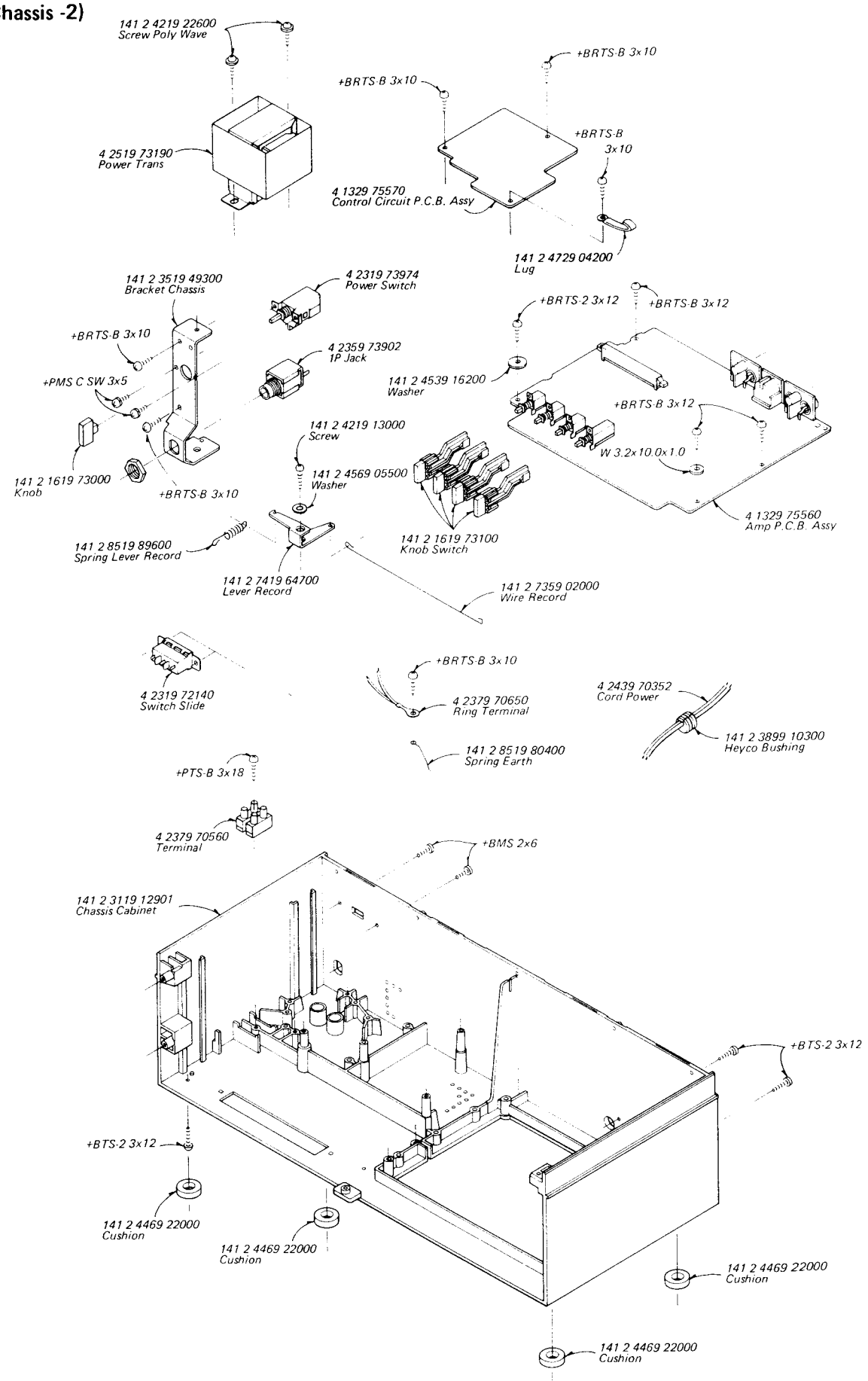
## (Cabinet Chassis -1)



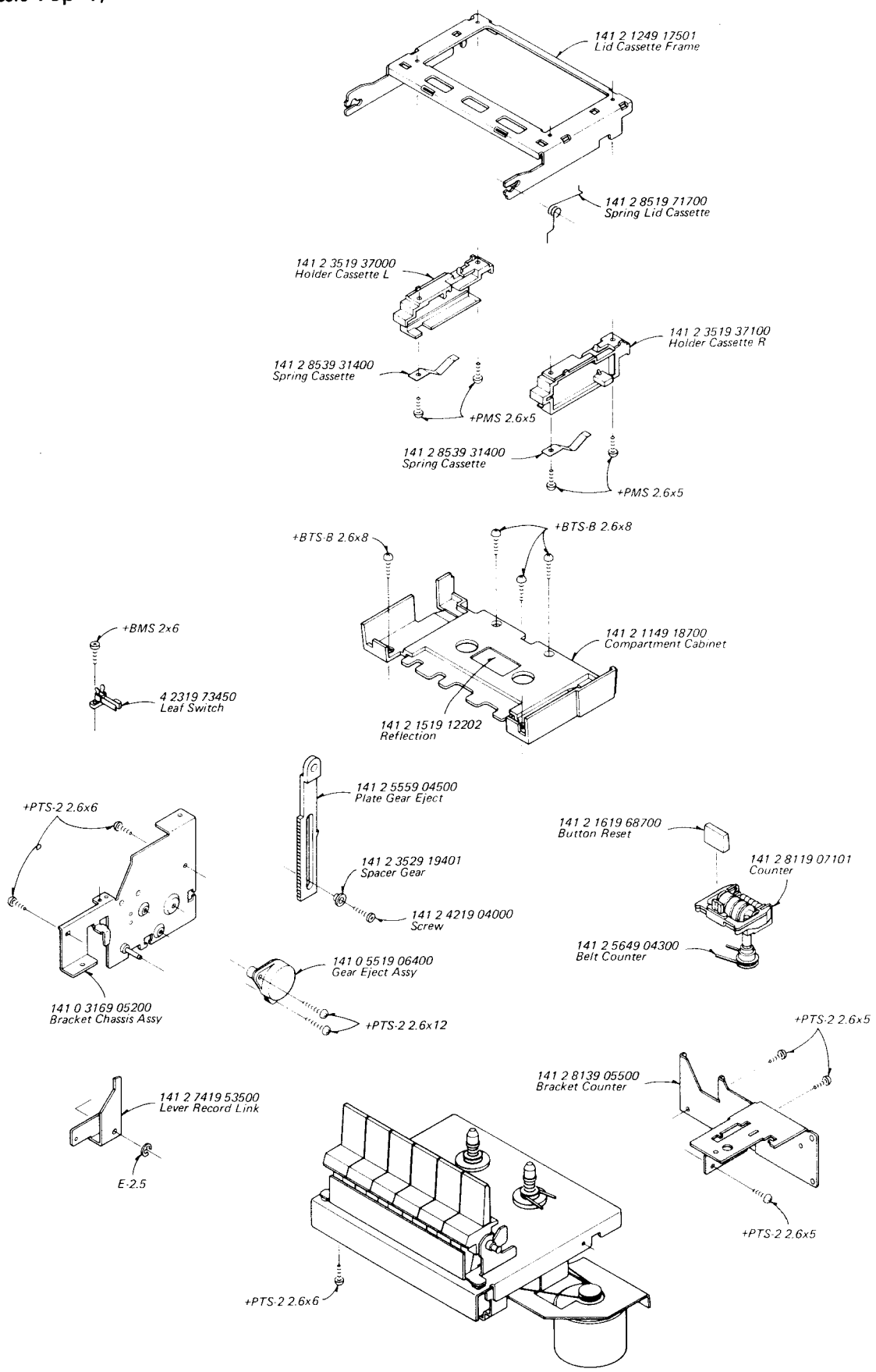
# EXPLODED VIEW (Continued)

## (Cabinet Chassis -2)



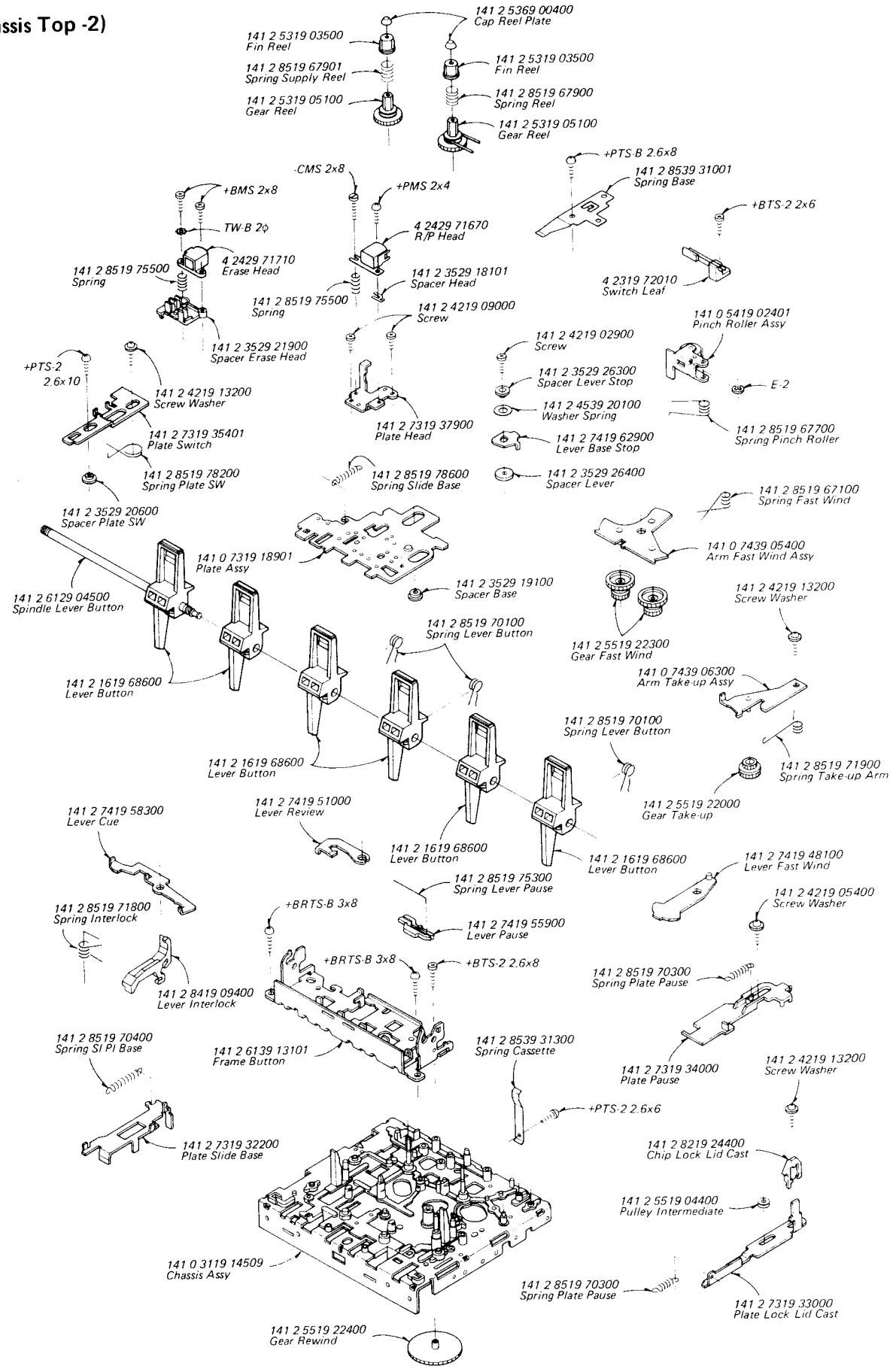
# EXPLODED VIEW (Continued)

## (Chassis Top -1)



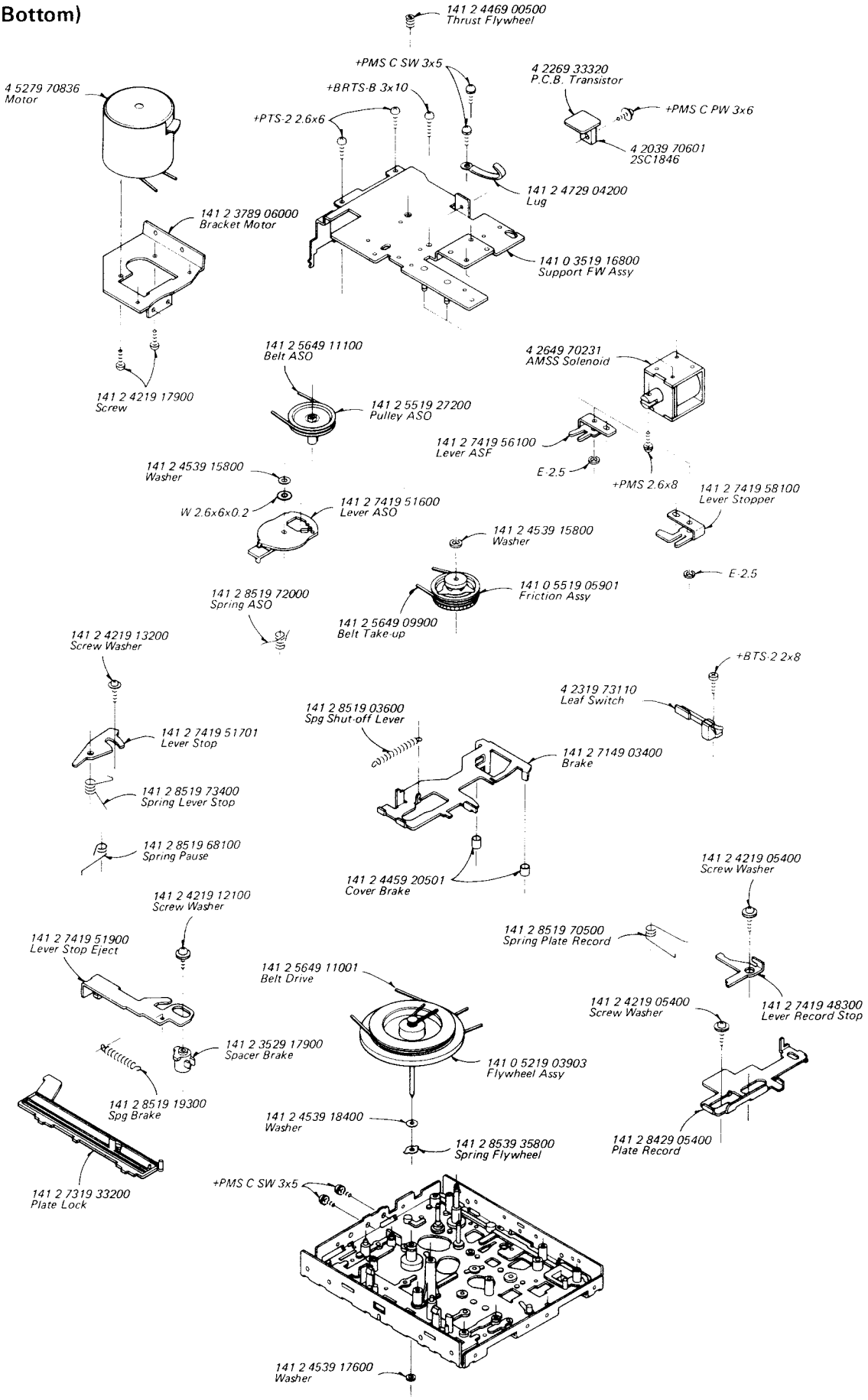
# EXPLODED VIEW (Continued)

## (Chassis Top -2)

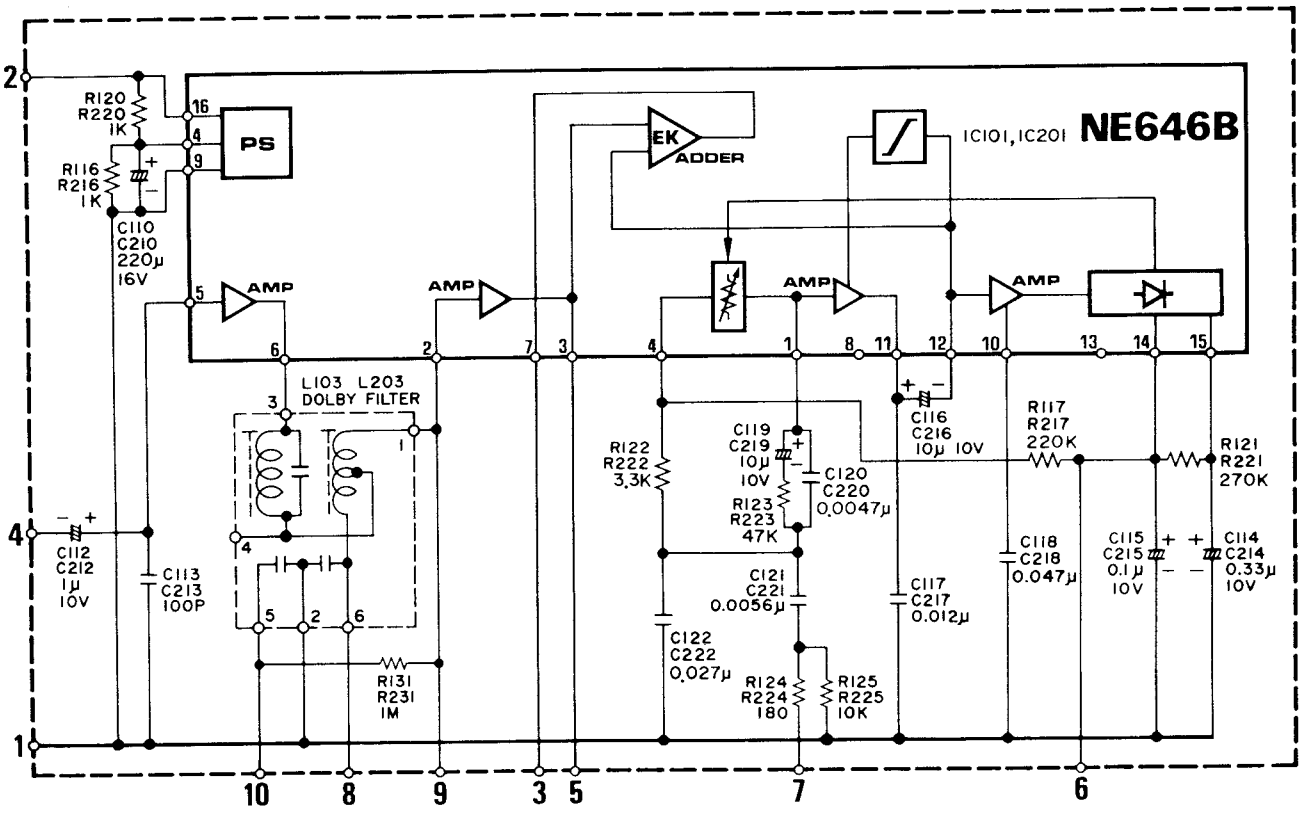


# EXPLODED VIEW (Continued)

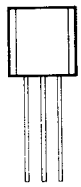
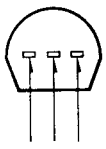
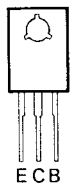
## (Chassis Bottom)



# DOLBY NR UNIT SCHEMATIC DIAGRAM

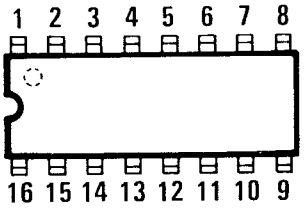



# TRANSISTOR LEAD AND IC TERMINAL IDENTIFICATION

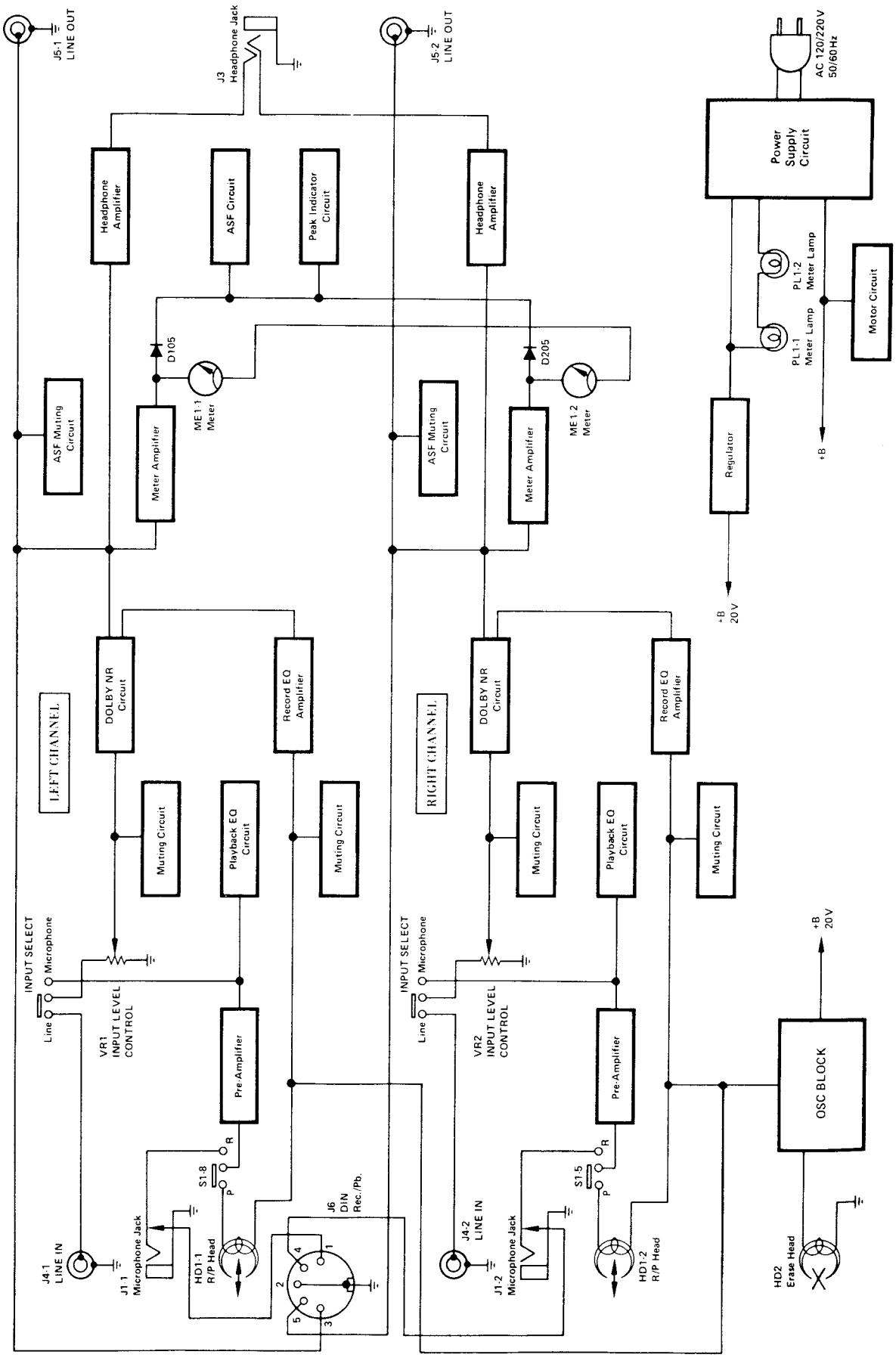
| FRONT VIEW | BOTTOM VIEW | TRANSISTOR |
|---|---|---|
|   |   | 2SC536<br>2SC693<br>2SC1815<br>2SD734 |
|   | | 2SC1846 |

| TERMINAL NAME |
|---|
| B⇒ BASE<br>C⇒ COLLECTOR<br>E⇒ EMITTER |

IC NE646B BOTTOM VIEW

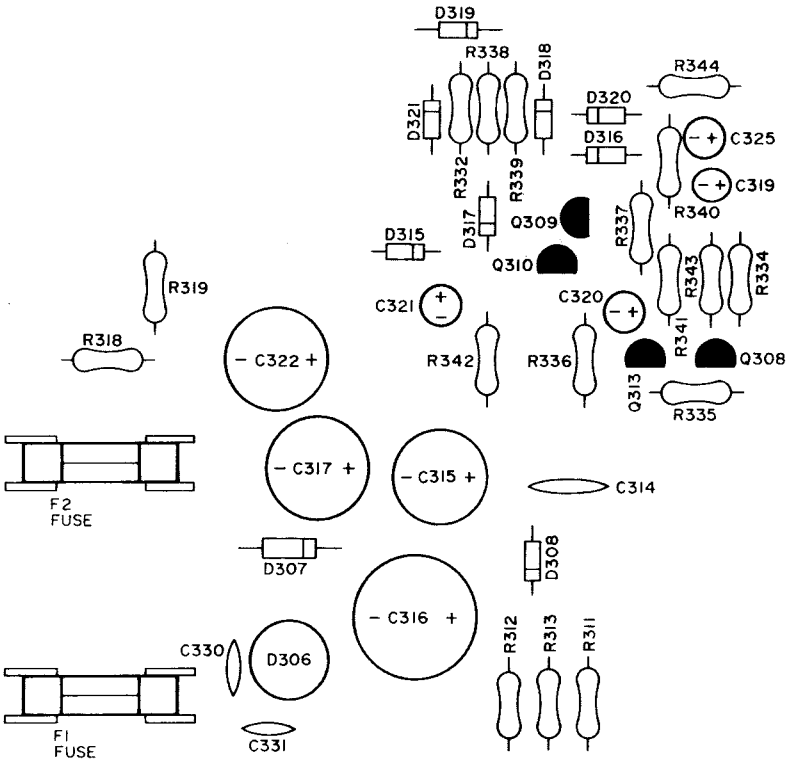


# BLOCK DIAGRAM

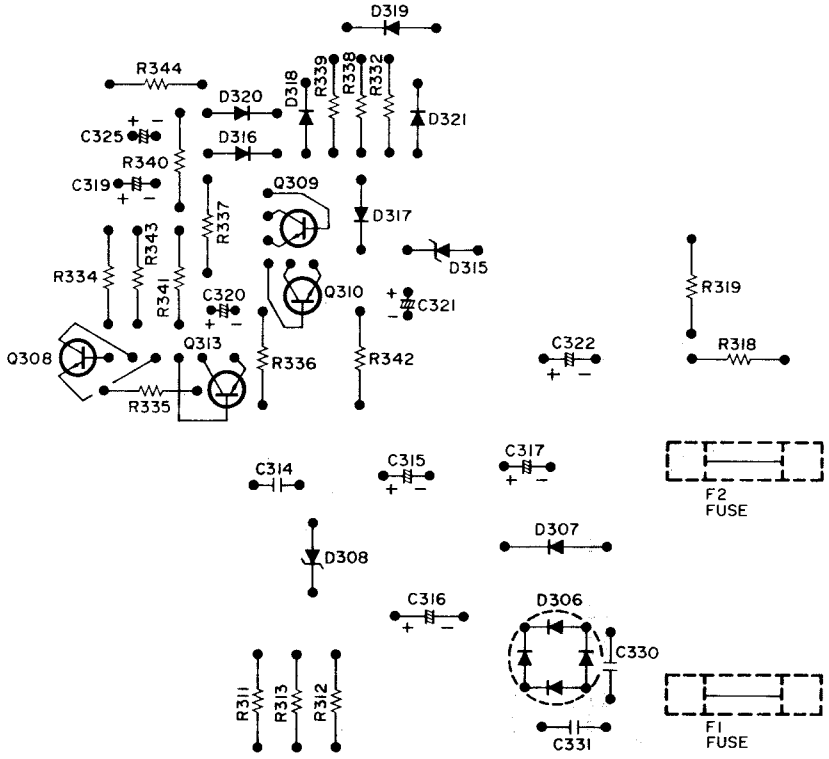


# CONTROL CIRCUIT P.C.BOARD

(Top View)

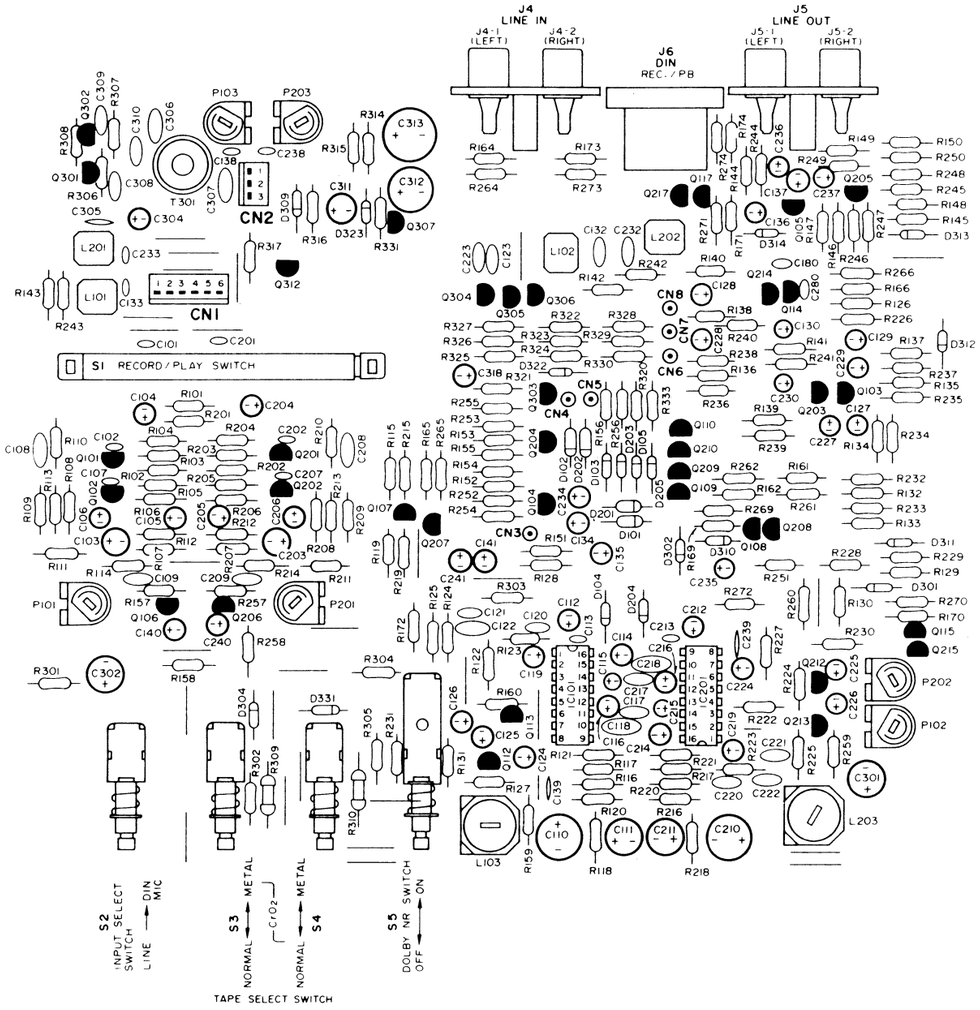



(Bottom View)

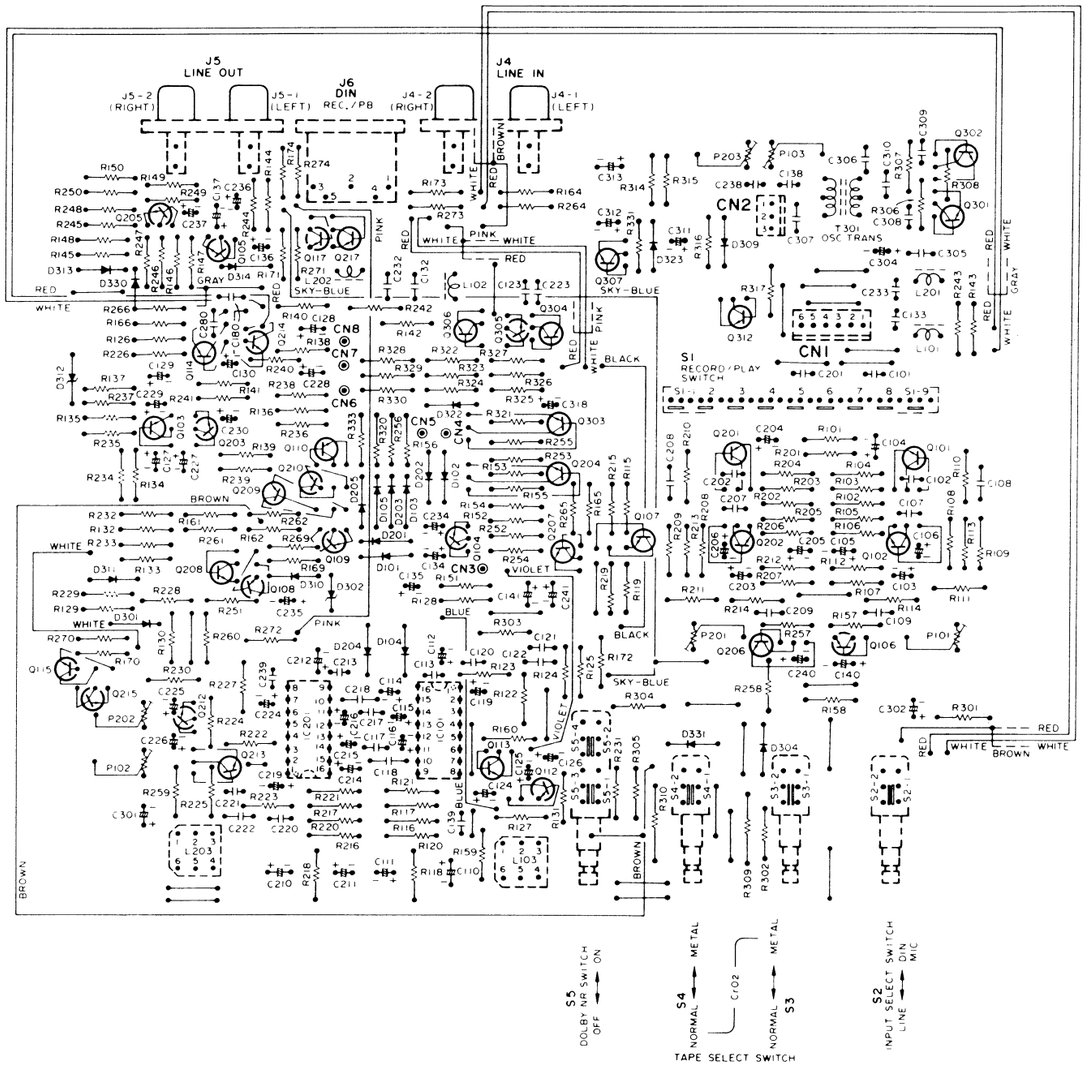


# AMPLIFIER P.C.BOARD

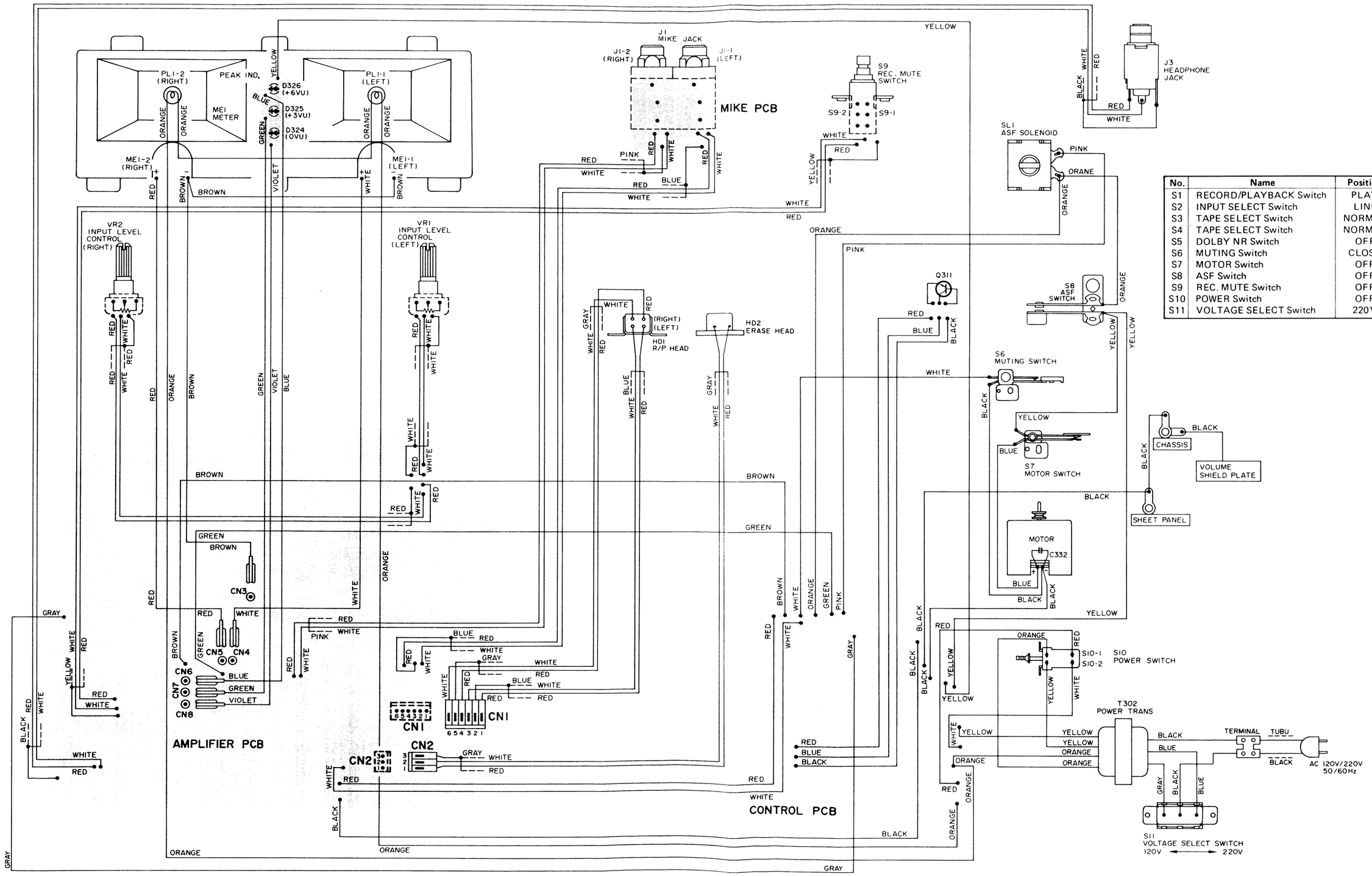
(Top View)




(Bottom View)

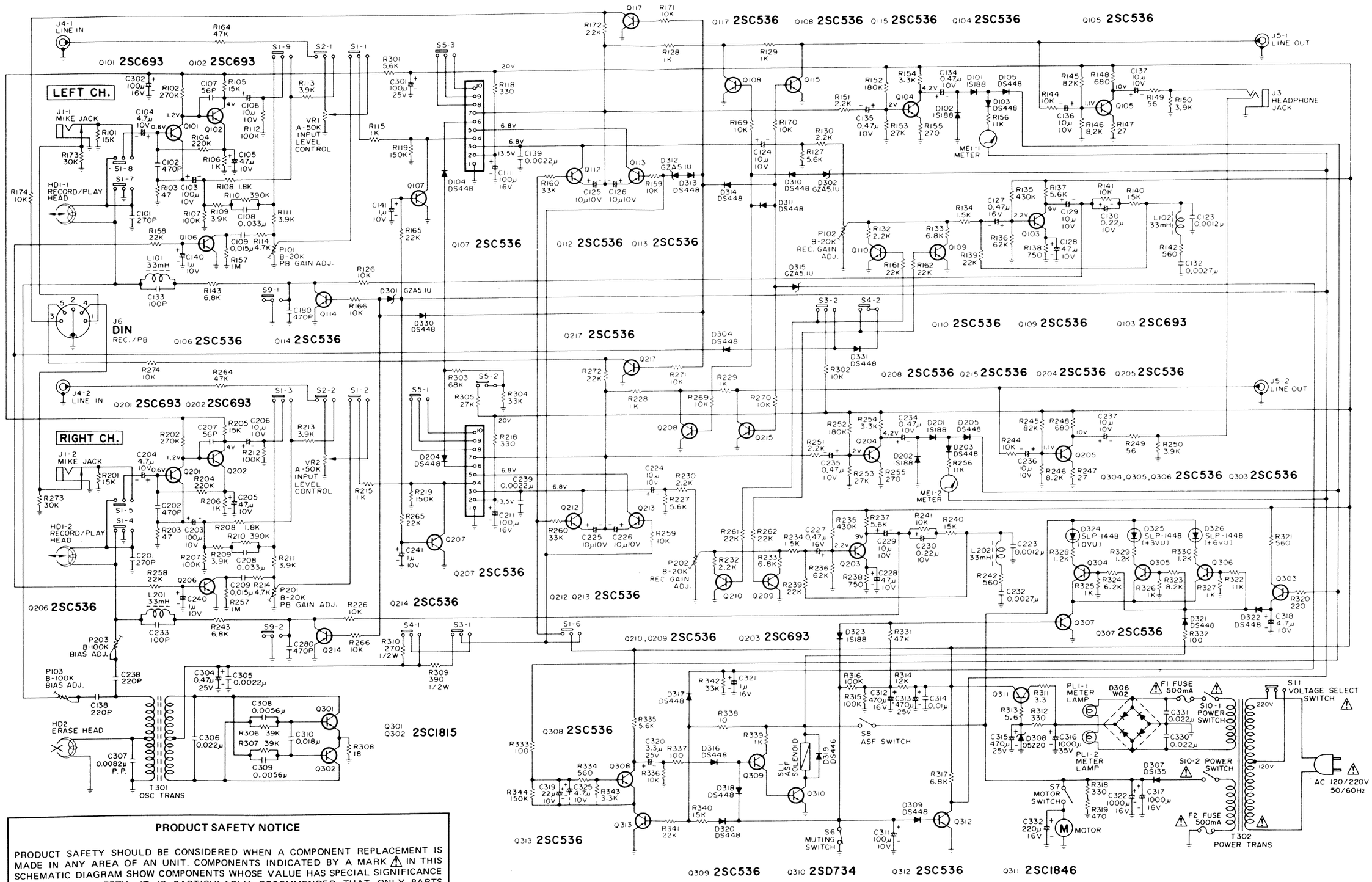


# WIRING DIAGRAM




| No. | Name | Position |
|---|---|---|
| S1 | RECORD/PLAYBACK Switch | PLAY |
| S2 | INPUT SELECT Switch | LINE |
| S3 | TAPE SELECT Switch | NORMAL |
| S4 | TAPE SELECT Switch | NORMAL |
| S5 | DOLBY NR Switch | OFF |
| S6 | MUTING Switch | CLOSE |
| S7 | MOTOR Switch | OFF |
| S8 | ASF Switch | OFF |
| S9 | REC. MUTE Switch | OFF |
| S10 | POWER Switch | OFF |
| S11 | VOLTAGE SELECT Switch | 220V |

# SCHEMATIC DIAGRAM

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